

Impact 3.16-5: Increase in ambient noise levels during operation of the Proposed Project.

The pumps would create continuous operational noise whenever being operated to divert water. Based on the maximum monthly diversion schedule, all pumps would be in operation from May to September. One to three pumps would be in operation from October to April. Each pump motor measures 90 dBA at a distance of 10 feet when not acoustically treated (M. Matson, pers. comm. 1998).

The pumps would be enclosed in a building that will be designed to reduce noise impacts to the surrounding area. The building would reduce noise to 45 dB at the canyon rim to comply with the City of Auburn and Placer County noise level performance standards for residential land uses.

Because the pumps would be enclosed, the operational noise would decrease noise levels for recreationists, and for the nearest residential area, relative to the existing condition. Overall, operational noise levels due to the Proposed Project would result in a less-than-significant change in ambient noise levels.

Impact 3.16-6: Increase in ambient noise levels during maintenance of the Proposed Project.

The maintenance activities and associated noise that would occur periodically in the project area include:

- ❑ Vehicle noise and miscellaneous low noise-generating activities during, on average, three maintenance visits per day;
- ❑ Miscellaneous low noise-generating activities, including the pump station and diversion structure inspections;
- ❑ Dredging of sediment build-up at the gradient structures approximately every fourth year; and
- ❑ Pump inspection and maintenance, which requires pulling the pumps vertically from their shafts using cranes mounted in the pump station roof during annual maintenance visits.

Weekly, seasonal, and annual maintenance activities occurring at the site would generate noise similar to existing maintenance activities for the seasonal pump station. Approximately every four years dredging of sediment at the gradient control structures is expected to be considerably more than that required for the seasonal pump station sump pond. The seasonal pump station dredging lasts less than one week per year. The year-round pump station could require dredging from several days to a few weeks. Project maintenance noise-generating activities would be noticeably increased over existing conditions, but not to an extent that would generate significant noise levels.

Impact 3.16-7: Increase in ambient noise levels associated with public river access at the Auburn Dam site and near Oregon Bar.

Incidental recreation activities anticipated to occur due to restoration of the dewatered river channel would result in increased noise levels compared to existing or No Action/No Project Alternative conditions associated with vehicular use of access roads and public use of the river. CDPR staff would be responsible for management of the public access areas and CDPR rangers, park aids, and volunteers would enforce the provisions of CCR 4320 which regulates the use of noisy devices (such as machinery or electronic equipment). Additionally, increased traffic-related noise from public river access related trips would less than double the traffic volume along Maidu Drive. A doubling of traffic levees could be expected to increase existing noise levels by less than 3 dB; this change in noise levels is generally not perceptible to the human ear (Federal Highway Administration).

Generally, due to (1) the distance and terrain between the river and sensitive receptors; (2) the seasonal and transient nature of the anticipated activity in the project area; (3) on-site CDPR enforcement of noise-related restrictions, and (4) the anticipated level of traffic-related noise; the potential increase in ambient noise levels would be expected to be less than significant.

Upstream Diversion Alternative

Impact 3.16-8: Increase in ambient noise levels during construction of the Upstream Diversion Alternative.

Construction of the Upstream Diversion Alternative pump station and diversion structure would generally be the same as described for the Proposed Project. These activities would result in short-term, temporary increases in ambient noise levels. Public notification and on-site measures to minimize the impact of increased noise levels would be implemented. Refer to Impact 3.16-4.

Overall, the increase in ambient noise levels would be considered less than significant.

Impact 3.16-9: Increase in ambient noise levels during operation of the Upstream Diversion Alternative.

Pump station operations under the Upstream Diversion Alternative would be the same as under the Proposed Project. Refer to Impact 3.16-5.

Impact 3.16-10: Increase in ambient noise levels during maintenance of the Upstream Diversion Alternative.

Maintenance activities under the Upstream Diversion Alternative would be the same as under the Proposed Project. Refer to Impact 3.16-6.

Cumulative Facilities-Related Impacts

In the future, ambient noise levels near the pump station site and in adjacent neighborhoods likely would increase as a result of increased recreation activity in the canyon and at the Auburn Overlook Campground, and from future residential developments in Auburn. Traffic noise levels also would be expected to increase along Maidu Drive. These anticipated changes in noise levels would be consistent with the character and land uses of the area, and would not be expected to result in a significant increase in noise levels. With regard to cumulative construction noise levels, potential impacts would be adequately mitigated as long as all projects implement standard noise control measures and adhere to applicable noise regulations.

3.16.2.5 Environmental Protection and Mitigation Measures

The Mitigation Plan (Appendix D to the Final EIS/EIR) that would be adopted for the selected action alternative, would include the measures described below to reduce noise-related impacts to levels considered less than significant.

Minimize Noise During Project Construction

Commitment:	Comply with local (El Dorado County, Placer County and City of Auburn) general plan noise ordinance requirements to minimize construction-related noise impacts.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area/City of Auburn (neighborhoods near site)
Timing:	During all phases of construction (2002 through 2004)
Monitoring:	Monitor noise levels during periods of peak and/or unusually noisy construction activity
Reporting Requirements:	Construction compliance reports/daily inspector reports

Description of Activities:

Reclamation will enforce Reclamation's Safety and Health Standards regarding noise. Additionally, as specified in local noise ordinances, construction activity will be limited as follows:

Noise-generating construction activities will be scheduled Monday through Friday (7:00 a.m. to 6:00 p.m.) and Saturday (9:00 a.m. to 5:00 p.m.). Saturday activities will be restricted, however, to be consistent with the City of Auburn Noise Ordinance.

On-site construction practices will include the following:

Construction activities which generate noise levels above 95 dB at 50 feet (e.g., impact pile driving, rock drilling, and blasting) will be limited to the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday, and will not be permitted on Saturday or Sunday.

All diesel construction equipment will be adequately muffled as recommended by the manufacturer.

Stationary construction equipment will be located as far as possible from resident boundaries.

Success Criteria: Construction noise levels remain within an acceptable range according to applicable standards and ordinances.

Minimize Operational Noise Levels by Enclosing Pumps

Commitment: Reduce the pump station operational noise levels by enclosing pumps in a structure that reduces noise levels to 45 dB at nearest residences.

Responsible Parties: Reclamation/Design Team

Location: Pump station/adjacent neighborhood

Timing: One-time design/construction

Monitoring: Following construction, monitor noise levels reached within adjacent neighborhoods to ensure compliance with local noise ordinances (i.e., 45 dB at nearest residence).

Reporting Requirements: Indicate noise level reduction achieved

Description of Activities:

Reclamation will require the Construction Contractor to enclose the pumps in a building designed to reduce noise impacts to the surrounding area. The building will reduce noise to 45 dB at the nearest residences to comply with the City of Auburn and Placer County noise level performance standards for residential land uses.

Success Criteria: Document achievement of noise level reduction and compliance with local noise ordinance standards.

Minimize Noise Levels Associated With Public Use of River Access Features

Commitment: Enforce CCR Title 14, CCR 4320, Peace and Quiet, within the Auburn SRA.

Responsible Parties: Reclamation/CDPR

Location: Public river access areas

Timing: Ongoing; when public river access facilities are open for use

Monitoring: Review records of neighborhood complaints and adjust enforcement level, as needed

Reporting Requirements: No specific reporting requirements

Description of Activities:

Reclamation, through its Auburn SRA management agreement with CDPR, will require CDPR to enforce hours of use and restrictions upon use of noisy equipment (e.g., radios) per CCR 4320, Peace and Quiet. Through this agreement, CDPR will be responsible for responding to and handling noise-related complaints associated with public use in the area.

Success Criteria: Minimal noise-related concerns or complaints.

3.17 PUBLIC HEALTH AND WORKER SAFETY

The Proposed Project or alternatives would have localized direct effects within the project study area. These effects are limited to facilities-related activities in the project area, including construction, operations and maintenance. The description of the affected environment and the evaluation of impacts, therefore, address only facilities-related effects within the project area.

3.17.1 AFFECTED ENVIRONMENT

3.17.1.1 Project Area Setting

The project study area for public health and worker safety issues includes areas where construction, operation, or maintenance activities would require the use of hazardous materials or activities. Areas upstream of the pump station construction area and downstream of Oregon Bar are therefore excluded from this evaluation.

Figure 3.17-1 identifies the project site, sensitive receptors, and the construction entrance to the site off of Maidu Drive. The non-motorized construction entrance is identified as a focal point because CALTRANS and California Highway Patrol (CHP) hazardous material permits do not apply on non-public roads, and because the construction road also serves as a recreation trail.

Public Health

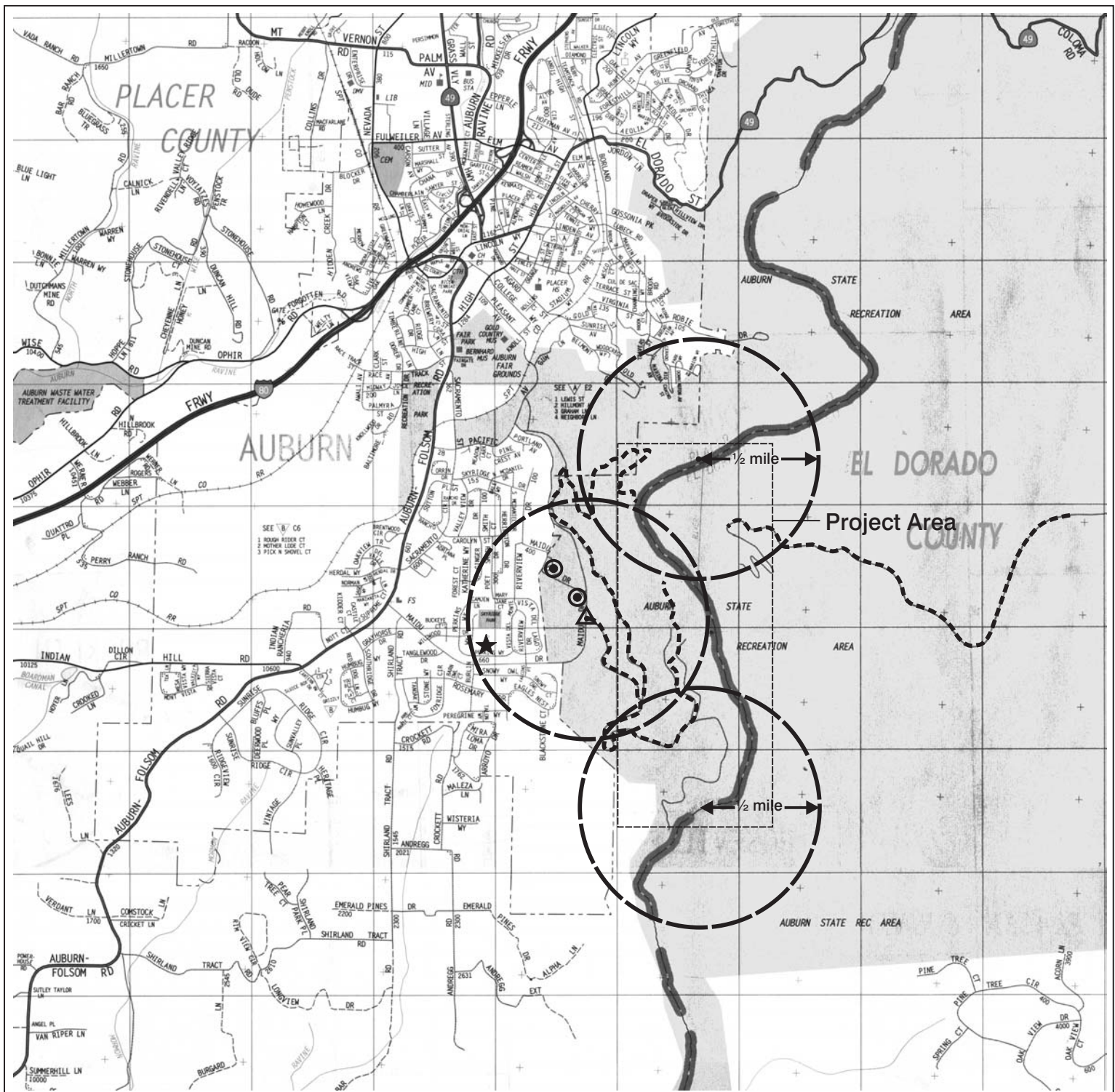
Sensitive receptors include residences, schools, parks, playgrounds, hospitals, day care facilities, and health care facilities. Of the nearby land uses, only residences and one school are located close to the project site. Skyridge Elementary School is located on Perkins Way, approximately three-quarter mile from the project area (Figure 3.17-1). In February 2002, the school reported an enrollment of approximately 623 children, ranging in age from 5 to 12 years old (grades kindergarten through sixth). Residences on Maidu Drive, Gold Street, Robie Drive, Placerado Avenue, and Marina Avenue, as well as smaller roads branching off of those streets, are within the one-half mile radius of the project site or construction entrance, with the nearest home located approximately 0.2 mile from the project site.

Worker Safety

During construction, a maximum of 50 workers would be in the area in addition to any delivery personnel. The workers and delivery personnel would be sensitive receptors to any accidents involving hazardous materials at the project site. During operation, one worker would visit the project site at approximately eight-hour intervals for operation checks and maintenance of the pump station and associated facilities.

Project Site Hazardous Materials

The project site does not currently contain any hazardous materials, as fuels and other equipment maintenance-related materials are not stored at the seasonal pump station site. However, the area



LEGEND

- Unimproved Access Roads
- Area of Potential Effect
- ★ Skyridge Elementary School
- Reclamation Offices
- △ Proposed Construction Entrance to Site

Figure 3.17-1 Project Site and Location of Sensitive Receptors

does contain naturally occurring asbestos. Reconnaissance mapping of the area during preliminary geotechnical investigations revealed serpentine rocks containing asbestos near the existing unimproved road to the seasonal pump station site (MARK 1997). Serpentine rocks are hard and dense, light greenish-gray to black, and some rocks may contain veinlets of chrysotile (asbestos) along joints (MARK 1997). Reclamation would determine the locations of asbestos-containing rocks and potential for project construction to disturb such areas based on the selected alternative final plans. While asbestos contained in rocks does not pose a threat to public or worker health, cracking or destruction of the rocks can release asbestos fibers which does present a health risk.

Construction activities under the Proposed Project or Upstream Diversion Alternative would require on-site use and storage of blasting equipment (i.e., explosives), diesel fuel, gasoline, paint, solvents, lubricating oils, and concrete curing compounds for use during construction and for maintenance of equipment and vehicles. Blasting equipment would include, but not be limited to, detonators, primers, and explosives. **Table 3.17-1** presents the types and amounts of hazardous materials that would be stored on-site.

Table 3.17-1 Hazardous Materials to be Stored On-Site During Construction of the Proposed Project and Upstream Diversion Alternative			
Material	Application	Storage Location	Storage Quantity
Diesel Fuel	Fuel for construction vehicles, equipment, and generators	Refueling truck that visits the project site one to two times per day	5,000 gallons. Truck on-site temporarily, not stored throughout construction
Gasoline	Fuel for small construction equipment, vehicles, and generators	Storage tank on project site	Up to 1,000 gallons
Paint	Protective coating of ferrous and other surfaces	Within storage trailer on project site	Up to 500 gallons
Solvents	Miscellaneous uses	Within storage trailer on project site	Up to 100 gallons
Lubricant Oils	Vehicle and equipment lubrication	Within storage trailer on project site	Up to 50 gallons
Concrete Curing Compound	Concrete curing	Within storage trailer on project site	Up to 200 gallons

During project operation, the only hazardous materials to be stored on-site would be fuel and hydraulic oil for the emergency generator. The generator would hold a maximum of 50 gallons of fuel.

Fire Management

Through a Cooperative Agreement with Reclamation, the California Department of Forestry and Fire Protection (CDFFP) provides fire protection services for the Auburn Dam and Reservoir lands. These fire protection services include both fire prevention and suppression activities and include patrolling, maintenance of fuel breaks and signs, and fire suppression, among other things, within the Auburn SRA.

Reclamation, CDFFP, and CDPR are developing a comprehensive fire management plan for the Auburn Dam/Auburn SRA. This activity is being undertaken through coordination and consultation with the City of Auburn, American River Watershed Group, and other local organizations including appropriate Fire Safe Councils in the affected area. The project area, located within the Auburn Dam Project lands, is included in the comprehensive fire planning effort. As part of this effort, CDPR, CDFFP, and Reclamation have prepared an Auburn State Recreation Area Prefire Management Plan (January 2002). This Prefire Management Plan is included as Appendix A to the Final EIS/EIR. CDFFP records for the last 10 years show that approximately 60 percent of fires started within and around the Auburn SRA are a result of direct human activity, including arson, escaped campfires, smoking, debris burning, equipment use, playing with fire, and vehicles. Lightning, a natural cause, started two percent of the fires. Other causes noted were the railroad and power lines.

Emergency response in the project area is the responsibility of many agencies. While hazardous material spills and other emergencies would be reported to the Placer County Sheriff's dispatch through 9-1-1, a series of contacts with other agencies also would be made. Agencies involved in an emergency incident could include the U.S. Environmental Protection Agency National Response Center, CDFFP, Placer County Office of Emergency Services (OES), Placer County Department of Environmental Health (DEH), the Placer County Hazardous Materials Response Team (located in Auburn), CDPR, and CDFG.

3.17.2 ENVIRONMENTAL CONSEQUENCES/IMPACT ANALYSIS

3.17.2.1 Methodology

Preliminary impact analysis consisted of identifying the nearest population center and sensitive receptors located in the study area. Maps were reviewed to determine the sensitive receptors located within one-half mile of the project area, which included residences and Skyridge Elementary School. The one-half mile distance is considered the potential impact area due to blasting which would be the primary hazard associated with construction.

Hazardous materials that would be used and stored on-site during construction and operation were identified and evaluated to determine the potential risk to sensitive receptors resulting from exposure to these materials. Hazardous materials used and stored on-site would not be highly toxic or flammable. Additionally, applicable laws, ordinances, regulations, standards, and Placer County plans were reviewed, and Cal/OSHA, Placer County OES and DEH officials were consulted. Occupational, Safety, and Health Administration (OSHA) officials were consulted for information on asbestos requirements in an outdoor environment. OES and DEH were consulted for information on Placer County's hazardous material response plans and procedures.

For public health, potential impacts were considered in relation to the type and quantities of hazardous materials to be used and generated by construction, as well as the potential for the public to come in contact with such materials. This included consideration of the amount of hazardous materials as well as hazardous material storage handling and disposal procedures. The location of sensitive public receptors also was considered relative to the risk posed by project site

accidents and hazardous material wind dispersal. Materials that would be transported, stored, handled, and disposed of during construction and operation include:

- ❑ Commercially available chemicals, including fuels, oils, solvents, paints, and other substances
- ❑ Explosives
- ❑ Naturally occurring asbestos

Regional issues, specifically the transport of hazardous materials to the project site on Interstate 80, local highways, and City of Auburn roadways, have been eliminated from further consideration. These issues have been eliminated due to the numerous requirements pertaining to the transport of hazardous materials specified by the Department of Transportation under the National Transportation Act (CFR 49).

Potential impacts to worker safety were considered in relation to OSHA requirements. OSHA requirements considered included those that specify the storage, handling (including the use of blasting equipment), and disposal procedures for hazardous materials.

3.17.2.2 Applicable Laws, Ordinances, Regulations, and Standards

Federal and state regulations govern the use, transportation, storage, and disposal of hazardous materials and wastes. **Table 3.17-2** summarizes the applicable federal and state regulations that were reviewed as part of this analysis.

Table 3.17-2 Summary of Hazardous Materials Regulatory Authorities	
Regulatory Agency	Authority
Federal Agencies	
Department of Transportation	National Transportation Act (CFR 49)
Environmental Protection Agency	Federal Water Pollution Control Act Clean Air Act Resource Conservation & Recovery Act (RCRA) Comprehensive Environmental Response, Compensation & Liability Act Superfund Amendments & Reauthorization Act (SARA)
Bureau of Alcohol, Tobacco and Firearms	Explosives Control Act
Occupational Safety and Health Administration	Occupational Safety and Health Act and CFR 29
State/Local Agencies	
Department of Toxic Substances Control	Hazardous Waste Control Law Hazardous Materials Release Response Plans/Inventory Law Acutely Hazardous Materials Law CCR Titles 17, 19, and 22
Department of Industrial Relations (Cal/OSHA)	California Occupational Safety and Health Act, CCR Title 8
Placer County Office of Emergency Services	Hazardous Materials Release Response Plans/Inventory Law

Hazardous Materials Public Health Regulatory Structure

Public health is safeguarded against harmful exposure to hazardous materials through several agencies. At the federal level, the principal agency regulating the generation, transportation, and disposal of hazardous materials is the EPA, under the authority of RCRA. CALTRANS governs the transport of hazardous materials.

Several state agencies also work to minimize public exposure to hazardous materials. The California Environmental Protection Agency (Cal-EPA) and the California OES establish rules governing the use of hazardous materials. The CHP and CALTRANS are the enforcement agencies for hazardous materials transportation regulations. The Bureau of Alcohol, Tobacco and Firearms (ATF) regulates the use and storage of explosives. ATF regulations define storage conditions, permit regulations, and security obligations, including storage and staging distances for explosives.

Within Cal-EPA, the Department of Toxic Substance Control (DTSC), formerly part of the Department of Health Services, has primary regulatory authority over the generation, transport, and disposal of hazardous materials under the Hazardous Waste Control Law (HWCL). The state has delegated enforcement of HWCL to the Placer County OES and DEH. State regulations applicable to hazardous materials are indexed in Title 26 of the CCR.

Placer County's emergency response plan for hazardous material incidents serves to minimize harmful public exposure to hazardous materials in the event of an incident. This plan specifies procedures for emergency notification response and public safety information. The county also requires a right-to-know reporting program for projects storing more than 55 gallons, 500 pounds, or 2,000 cubic feet of hazard materials to protect the public against hazardous materials. The report program requires contractors to develop a spill prevention and containment plan, identify storage locations and amounts, and comply with storage requirements (J. Miners, pers. comm. 1998).

Hazardous Materials Worker Safety Regulatory Structure

OSHA sets federal standards regulating worker handling, transport, storage, and disposal of hazardous materials to ensure safety of workers in contact with such substances. OSHA also requires worker training and sets exposure limits and safety procedures for the handling of hazardous substances (as well as other hazards).

Cal/OSHA assumes primary responsibility for developing and enforcing work place safety regulations within the state. Cal/OSHA regulations for hazardous materials include requirements for safety training, availability of safety equipment, hazardous materials exposure warnings and emergency action, and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, providing employees with Materials Safety Data Sheets (MSDS), describing the hazards of chemicals, and documenting employee training programs.

Cal/OSHA requirements (CCR Title 8) are more stringent than federal requirements and include establishing control areas, wetting asbestos-containing materials to preclude fiber release, wearing of personal protective equipment in the form of full-body protective suits and respiratory protection as necessary, and collecting air samples to test worker exposure, along with safety requirements regarding blasting equipment and commercially available hazardous materials.

3.17.2.3 Impact Indicators and Significance Criteria

Public health and worker safety impact indicators and significance criteria were developed based on the location of sensitive receptors and the types of hazardous materials that would be used and stored on site. **Table 3.17-3** presents the indicators and criteria used in the impact analysis.

Table 3.17-3 Public Health and Worker Safety Impact Indicators and Significance Criteria	
Impact Indicators	Significance Criteria
Public Health	
<input type="checkbox"/> Hazardous material and blasting incidents in the project area of a large enough magnitude to pose a health risk to the nearest sensitive receptors.	<input type="checkbox"/> Result in a substantial increased risk of exposure to commercially available hazardous substances and explosives and the hazards associated with those materials such as explosions or fires.
<input type="checkbox"/> Sensitive receptor exposure to asbestos fibers through wind dispersion from the project site during construction only.	<input type="checkbox"/> Result in exposure to asbestos concentrations greater than the Cal/OSHA 0.1 fiber per cubic centimeter of air as an eight-hour time-weighted average, or greater than 1.0 fiber per cubic centimeter of air as averaged over a sampling period of 30 minutes, as measured by methods prescribed by Cal/OSHA regulations.
Worker Safety	
<input type="checkbox"/> Worker exposure to explosions and fires associated with commercially available chemicals (e.g., solvents, fuels, and oils).	<input type="checkbox"/> Result in a substantial increased risk of exposure to explosive and fire hazards associated with spills or incorrect handling, storage, or use of commercially available substances in relation to applicable worker safety regulations.
<input type="checkbox"/> Worker exposure to asbestos fibers during construction only.	<input type="checkbox"/> Result in an exposure to asbestos concentrations in violation of Cal/OSHA standards.
<input type="checkbox"/> Worker exposure to accidental explosions associated with blasting materials.	<input type="checkbox"/> Result in a substantial increased chance of injury due to blasting operations and presence of explosives in relation to applicable worker safety regulations.
Fire Safety	
<input type="checkbox"/> Public, resident, and worker exposure to fire dangers.	<input type="checkbox"/> Result in a substantial increase in potential for construction- or project-related fires.

3.17.2.4 Impact Analysis

Facilities-Related Impacts

No Action/No Project Alternative

There are no hazardous materials currently stored on-site and the No Action/No Project Alternative would not substantially change either public health or worker safety conditions. The No Action/No Project Alternative would not result in a substantial increase in the potential for wildfires or project-related fires relative to the existing condition.

Proposed Project

Public Health

Impact 3.17-1: Increased risk of public exposure to commercially available hazardous materials or explosives.

During construction, commercially available substances as identified in Table 3.17-1 will be used and stored on-site. These substances could be flammable, volatile, or possess other hazardous characteristics. The project area will be closed to the public during some construction activities; however, accidental explosions or fires associated with commercially available materials could pose a risk to sensitive receptors.

The nearest sensitive receptor to the project site is located approximately 0.2 mile from the seasonal pump station and 700 feet higher than at the top of the western side of the river canyon. The amount of hazardous materials stored on-site will not be sufficient to generate an accidental explosion of a large enough magnitude to pose a risk to this receptor.

As presented in Table 3.17-1, the largest amount of hazardous materials stored on-site will be 1,000 gallons of fuel. This amount exceeds the storage limit specified in the Placer County right-to-know reporting program, and as a result, a spill prevention and containment plan will be implemented and compliance with chemical storage and use requirements shall be followed. The lead agencies would ensure that the project construction contractor complies with relevant hazardous material regulations. In addition, Placer County has an emergency response plan. Based on the topography, distance to the nearest sensitive receptor, and the hazardous material storage, spill, containment, and emergency response conditions in place, the presence of the identified types and volumes of commercially available materials will not present a substantial increase in risk to public safety.

Construction of the Proposed Project could include up to three explosive events per day. Blasting will occur between the hours of 1:00 p.m. and 4:00 p.m. over a period of three to eight months. Cal/OSHA regulations (CCR Subchapter 4, Article 8) govern supervision of blasting operations and storage, transport, and handling of explosive materials. These regulations require that blasting operations are supervised by a blaster with a current, valid California “Blaster’s License” (CCR §1550). Storage requirements specify conditions for the contents of explosive

storage magazines; for example, detonators are not to be stored in a magazine with any other explosive material (CCR §1561). Handling and use regulations include numerous measures to prevent accidental or unplanned explosions. These measures also specify distances to be maintained between explosives and power lines and between simultaneous blasting operations, prohibit unattended or abandoned blasting materials, and detail blast loading and detonation methods (CCR §1565 and 1567). ATF regulations also define storage conditions, security obligations, and storage requirements for explosives. These regulations specify site security actions that must be taken to prevent theft and misuse of explosive materials such as posting warning signs and controlling access to areas where explosives are stored and used.

Reclamation will be responsible for ensuring that the construction contractor complies with Cal/OSHA, ATF, and other blasting regulations. With blasting regulation compliance, potential impacts from risks associated with accidental explosions, fires, or theft and misuse will be less than significant.

Based on the procedures and restrictions that will be in place to control the use, transport, and handling of hazardous materials and explosives, it is unlikely that the nearest project area receptors will be exposed to accidental explosions or fires associated with the commercially available chemicals and explosives to be used by the project. Therefore, construction and operation of the Proposed Project will represent a less-than-significant impact.

Impact 3.17-2: Increased public exposure to asbestos.

Excavation and blasting activities in the project area could release asbestos fibers. While asbestos was not encountered in pump station or pipeline location borings, asbestos was identified in bedrock outcrops and rock debris on the slope above the existing unimproved road to the diversion site during preliminary geotechnical investigations (MARK 1997). Increased public exposure to asbestos fibers could be a potentially significant impact of project construction. Reclamation would include measures to reduce the risk of exposure to asbestos as part of the Mitigation Plan (see Section 3.17.2.5).

Implementation of the environmental protection measures will lessen the impact of excavation and blasting activities and resultant increased public exposure to asbestos, if present at the site, resulting in a less-than-significant impact.

Impact 3.17-3: Increased public exposure to fire hazards.

Increased public use of the Auburn Dam and Oregon Bar areas at the site and of the North Fork American River from the confluence and downstream past the project area introduces an increased fire risk associated with human activity in the canyon.

The Comprehensive Fire Management Plan will include all aspects of public and firefighter safety and prevention and fire suppression activities. Since the release of the Draft EIS/EIR, a major component of the Comprehensive Fire Management Plan, the Fuels Management Action Plan, has been completed and is included in the Prefire Management Plan. This element directly affects the interface lands (the areas where public lands adjoin private lands) and lays out a

process to implement fire management strategies for the Auburn SRA lands that are a priority interface with the Greater Auburn Area. As a major component of mitigation for the potential of increased fire danger on public lands within the interface areas directly affected by the American River Pump Station Project, ground implementation of the Fuels Management Action Plan is planned to be completed prior to opening the area for public use.

Through coordination and partnerships with local neighborhoods, citizen groups, and others, C DPR and Reclamation will work to implement appropriate fire management strategies as prescribed in this plan. The interface lands will be divided into priority areas with each having its own site-specific environmental review process.

Fuel modification within interface lands is critical for reducing the potential for a costly and damaging fire. The following prescriptions can be used for fuel management in three distinct geographic areas or zones within the interface areas: (1) Shaded Fuel Break, (2) Defensible Space, and (3) Defensible Landscape.

Shaded fuel breaks will be developed on public lands that interface private lands directly affected by the American River Pump Station Project. The width of the fuel break is usually 100 to 300 feet, depending on site conditions. Creating a shaded fuel break involves carefully planned thinning of dense vegetation, intended to inhibit fire from easily moving from ground into the overhead tree canopy. A shaded fuel break does not involve the removal of all vegetation in a given area.

Fire suppression ground and air resources can use the shaded fuel break area to suppress wildland fires. Any fuel break by itself will not stop a wildland fire. Shaded fuel breaks, to be most effective, must be accomplished in conjunction with the other prescriptions, such as defensible space and defensible landscapes, which would occur largely on adjacent private properties. The managing partners of the comprehensive fire plan are working with local entities and citizen groups to implement the Fuels Management Action Plan.

Construction-Related Fire Protection and Prevention

Reclamation would ensure that the construction contractor prepare and carry out an effective fire protection and prevention program covering all phases of construction under the contract for the selected alternative. The plan would be submitted to Reclamation, for approval prior to the start of construction operations. At the option of the construction contractor, the fire protection and prevention program may be incorporated into the safety program required in the project's construction specifications.

These requirements would be part of the Mitigation Plan (see Section 3.17.2.5) for fire protection and prevention.

All construction operations shall be in compliance with Reclamation Construction Safety Standards and applicable federal and state codes.

Fire Management and Prevention for Public River Access Features

Shaded fuel breaks would be constructed along the public river access roads and parking areas. These shaded fuel breaks would be 20 to 30 feet wide depending on the site conditions. Shaded fuel breaks are proposed along the main construction road that follows Maidu Drive to the batch plant, and from the batch plant to Oregon Bar and to the river-side turnaround and limited ADA-designated parking area. Shaded fuel breaks also would be constructed around the batch plant parking area and both turnarounds. Road improvements would meet emergency vehicle access needs. Moreover, the proposed prohibition on open fires within the project area would reduce the risk of wildfire potentially related to increased public use.

Additionally, distance or mile markers would be installed along the trails as appropriate to aid rescuers in emergency situations to locate hikers that may become disabled or lost.

Additional actions and activities may be identified as the comprehensive fire planning process continues to evolve. This plan would be in place prior to opening the project area for public use.

Worker Safety

Impact 3.17-4: Worker exposure to fire and explosive hazards associated with the handling and storage of commercially available hazardous materials.

Under the Proposed Project, various commercially available substances will be used in the project area, as well as explosives. Table 3.17-2 identifies the amount of each substance that will be stored on-site. As part of construction management, a right-to-know reporting program would be implemented and project contractors will be responsible for enforcing worker standards procedures for the correct handling and storage of these materials. PCWA and Reclamation also will ensure that the construction contractor complies with appropriate hazardous material and explosives regulations. A spill prevention and containment plan and worker briefings on correct handling and storage procedures also will be implemented. With these measures in place, the risk to workers from accidental fires and explosions related to commercially available hazardous materials and explosives will be less than significant.

Impact 3.17-5: Worker exposure to unacceptable levels of asbestos.

Construction activities could release asbestos fibers from rocks in the project area into the air, thereby increasing the health risk to workers. Environmental protection measures for the Proposed Project incorporate Cal/OSHA requirements to be implemented by the construction contractor and include: asbestos concentration monitoring, asbestos awareness training of construction workers, and implementation of a personal hygiene plan. Based on results of asbestos monitoring, respiratory requirements could be implemented, as necessary. Additionally, to prevent the dispersal of asbestos fibers, the construction contractor would water blast sites and other areas. These measures would reduce the risk of asbestos-related health effects to a less-than-significant level.

Impact 3.17-6: Increased risk of injury due to use of explosives.

Under the Proposed Project, explosives would be used during excavation activities. Hazards would be associated with accidental explosions during transport, storage, assembly, and detonation. Transport of detonators, fuses, dynamite, and other explosive materials could pose a threat to workers' safety; however, Cal/OSHA maintains a series of rules (CCR, Title 8) regarding blasting operations and storage, transport, and handling of explosives materials, as discussed under Impact 3.17-1. These safety measures would be part of the construction management of this project and the risk to worker safety from the use of explosives would be less than significant.

Blasting operations could pose seismic hazards to workers on-site (the public would not be exposed due to project site closure during blasting, nor would area residences be exposed due to the small magnitude of explosives). Specifically, blasting could result in falling rock or debris that could affect worker safety. Reclamation would be responsible for ensuring that the project blasting specialist designs timing, duration, and magnitude of blasts, so as not to trigger falling rock or debris. Therefore, this represents a less-than-significant impact.

Upstream Diversion Alternative*Public Health**Impact 3.17-7: Increased risk of public exposure to commercially available hazardous materials.*

As with the Proposed Project, commercially available substances and explosives would be used and stored on-site during construction. These materials would be used and stored in compliance with all federal, state, and local requirements, thereby resulting in a less-than-significant impact. For discussion of this impact, refer to Impact 3.17-1.

Impact 3.17-8: Increased public exposure to asbestos.

As with the Proposed Project, construction activities potentially would expose and release asbestos into the surrounding environment. Environmental protection measures to prevent public exposure would be implemented and would reduce this impact to less than significant. For discussion of this impact, refer to Impact 3.17-2.

*Worker Safety**Impact 3.17-9: Worker exposure to increased fire and explosive hazards associated with the handling and storage of commercially available hazardous materials.*

Similar to the Proposed Project, activities related to the Upstream Diversion Alternative would involve the use and storage of various commercially available substances at the project site (see Table 3.17-2). Implementation of construction management measures would reduce this impact to less than significant. For discussion of this impact, refer to Impact 3.17-3.

Impact 3.17-10: Worker exposure to unacceptable levels of asbestos.

Construction activities under the Upstream Diversion Alternative could result in the release of asbestos fibers from project site rocks, thereby increasing the health risk to workers. As described for the Proposed Project, the construction management plan would employ protection measures to result in a less-than-significant impact. For further discussion of this impact, refer to Impact 3.17-4.

Impact 3.17-11: Increased risk of injury due to use of explosives.

Under the Upstream Diversion Alternative, explosives would be used during excavation, however, as with the Proposed Project, blasting operations would be carried out in compliance with Cal/OSHA regulations; therefore, impacts from the use of explosives would be less than significant. For further discussion of this impact, refer to Impact 3.17-5.

Cumulative Facilities-Related Impacts

Implementation of the selected alternative would require compliance with all local, state, and federal regulations governing the transport, delivery, use, storage, and accident response activities relative to the project to protect public health and worker safety. It is expected that regulatory agencies would require the same level of public health and worker safety protection of other planned/proposed projects in the study area, thereby minimizing the potential for cumulative public health or work safety effects.

The Comprehensive Fire Management Plan would serve to address cumulative fire prevention, protection, and management concerns within the Auburn SRA.

3.17.2.5 Environmental Protection and Mitigation Measures

Several mitigation measures have been incorporated into the Mitigation Plan to reduce potential public health and worker safety concerns.

Minimize the Potential for Increased Erosion and Slope Instability During Project Construction

Commitment:	Implement the best available engineering design standards and grading techniques to reduce the possibility of undue risks to members of the public and/or additional environmental degradation that could be caused by erosion, mass wasting or unstable slope conditions.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area
Timing:	During all phases of construction (2002 through 2004)
Monitoring:	Regular on-site inspection of active construction areas
Reporting Requirements:	Construction compliance reports/daily inspector reports

Description of Activities:

Reclamation will require the Construction Contractor to perform all grading and excavation operations such that the potential for creating unstable slopes or landslides would be minimized. Potential measures include terracing, reducing slope angles, and reducing the height of cut and fill slopes.

Reclamation will require the Construction Contractor to fence-off or identify with temporary markers, areas of substantial instability in order to prevent unauthorized access.

Success Criteria: Hazardous unstable slope conditions are avoided.

Minimize Potential for Increased Exposure to Hazardous Materials or Fire Risk During Project Construction

Fuel would be stored on-site in an amount that exceeds the storage limit specified in the Placer County right-to-know reporting program, and as a result, a spill prevention and containment plan will be implemented and compliance with chemical storage and use requirements will be followed.

Commitment:	Use potentially hazardous materials according to manufacturers instructions. Minimize potential for fire hazard due to construction activities.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area
Timing:	During all phases of construction (2002 through 2004)
Monitoring:	Inspect and record use of hazardous materials
Reporting Requirements:	Construction compliance reports/daily inspector reports

Description of Activities:***Hazardous Materials***

Reclamation will require the Construction Contractor to ensure compliance with all applicable hazardous material regulations, including regulations for blasting operations.

Reclamation will require the Construction Contractor to provide evidence of worker training and education on the proper transport, storage, handling, and use of hazardous materials and explosives.

Reclamation will require the Construction Contractor to restrict public access in areas of hazardous material storage or use.

Fire Protection and Prevention

Reclamation will ensure that the Construction Contractor prepare and implement an effective fire protection and prevention program covering all phases of construction under the contract. This plan will be submitted to Reclamation's Construction Engineer for approval prior to construction

operations. Construction Contractor will provide and maintain a fire-tool cache and a sufficient number of employees familiar with this equipment will be available at all times when work is in progress.

In the event of a fire resulting from Project operations, the local fire-protection agency will be notified and the contractor shall take immediate control action with all available equipment and manpower.

In areas where a significant fire hazard exists as determined by the Contracting Officer, the contractor shall provide a fire patrol for one hour after the shutdown of construction operations each day during the fire season.

Contractor will establish a firebreak on the uphill side of the Project in areas where natural fuels are present and where existing roads or creek beds will not serve the purpose. The firebreak will be within the right-of-way acquired by Reclamation and will consist of a 10-foot wide strip with flammable material either cleared or covered with mineral soil.

Where normal fire protection services are interrupted by construction operations, the contractor will provide equivalent temporary services including water supplies and access for fire equipment through the Project area.

All construction operations will be in compliance with Reclamation Construction Safety Standards and all applicable state and federal codes.

Success Criteria: Document compliance with all activities.

Remove All Construction-related Materials From Project Site Prior to Opening for Public Use

Commitment:	Ensure public safety within the Project area.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area
Timing:	Upon completion of construction/prior to opening site for public use
Monitoring:	On-site Monitor to inspect site following clean-up efforts and demobilization.
Reporting Requirements:	Final construction compliance report

Description of Activities:

Reclamation will require the Construction Contractor to remove all waste materials, rubbish and unused construction materials from the Project site after construction and before public access into the area is granted.

Success Criteria: Document site condition in final construction report.

Minimize the Risk of Public Exposure to Fire Hazards During Project Operations

Reclamation, CDFFP, and CDPR developed a comprehensive fire management plan for the Auburn Dam and Reservoir lands/Auburn SRA. This activity involved coordination and consultation with the City of Auburn, the American River Watershed Group, and other local organizations including Fire Safe Councils within the Auburn area.

Commitment:	Provide fire protection services including fire prevention and suppression.
Responsible Parties:	Reclamation/CDPR/CDFFP
Location:	Project area/Auburn SRA
Timing:	During construction/ongoing once public river access is granted.
Monitoring:	No specific monitoring requirements
Reporting Requirements:	No specific reporting requirements

Description of Activities:

Reclamation will be responsible for ensuring implementation of the Comprehensive Fire Management Plan. Agencies involved in coordination and implementation of the plan include Reclamation, CDPR, and CDFFP. Additionally, will CDPR enforce the provisions of CCR Title 14, Section 4311 restricting fires and smoking at the public river access locations.

The Fuels Management Plan element of the Comprehensive Fire Management Plan includes establishment and maintenance of shaded fuel breaks adjacent to all public access roads associated with the Project. This includes the main construction road from Maidu Drive to the batch plant, the road from the batch plant to Oregon Bar, and the road from the batch plant to the riverside turnaround and handicap-accessible parking lot (across the river from the existing tunnel outlet). Shaded fuel breaks also will be constructed around the batch plant parking area and both turnarounds.

Additional measures include:

- ❑ Implementation of standards set forth in Public Resources Code 4290 to ensure safe passage of fire suppression resources and egress of private vehicles should a wild fire occur in the canyon. These standards address road widths, turnouts, and dead-end turnarounds.
- ❑ Placement of distance/mile markers along Project area trails to aid rescuers in emergency situations to locate hikers that may become disabled or lost.

Additionally, a 300-foot wide shaded fuel break is being constructed between the houses adjacent to Auburn SRA and the Maidu Drive/Skyridge neighborhood. Construction of the shaded fuel breaks is being completed separately from the Project in cooperation between CDPR, CDFFP and Reclamation. However, although not part of the Project, this action will serve to benefit the Project area and further reduce potential risk of fire in the study area.

Success Criteria:	Placement of shaded fuel breaks. Ongoing agency coordinated protection of area.
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Prevent Vehicular Access in Undesignated Areas

Commitment:	Restrict vehicular public access to permitted routes only.
Responsible Parties:	Reclamation/Construction Contractor and CDPR
Location:	Project area roads
Timing:	Permanent barriers
Monitoring:	Monitoring condition of barriers and provide replacement or repair, as needed
Reporting Requirements:	No specific reporting requirements

Description of Activities:

Reclamation will require the Construction Contractor to install large rocks, guard rail posts, or other barriers at all trail or road intersections or termination points where off-road public access is to be restricted.

Reclamation will require CDPR to monitor the condition of these barriers and provide maintenance, repair or replacement, as needed.

Success Criteria:	Road barriers remain in place and prevent off-road vehicular use in Project area.
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Minimize Inappropriate or Illegal Activities at Public River Access Locations

Commitment:	Patrol and enforce state regulations regarding illegal or inappropriate activities.
Responsible Party:	CDPR, through management agreement with Reclamation
Location:	Project area - public river access features
Timing:	Ongoing during use of public river access sites
Monitoring:	Record incidents and how they were handled
Reporting Requirements:	According to CDPR requirements

Description of Activities:

Reclamation, through the Auburn SRA management agreement, will require CDPR to post the rules and regulations applicable to use of the Project area at the entrance and at each of the parking areas and turnaround locations. The following restrictions are anticipated:

- ☐ No alcohol use.
- ☐ No open fires or smoking.

A new gate will be installed at the junction of Maidu Drive and the public access road into the canyon. An entrance station is to be constructed near the junction of Maidu Drive and the construction road into the dam site that will be used as the access road; the station will be manned during all hours of operation.

The gated entrance station will limit vehicle access to designated hours.

Limit Public Access to Water Supply Facilities and Structures

Commitment:	Protect PCWA's facilities and minimize public safety issues due to misuse of water supply facilities.
Responsible Party:	PCWA
Location:	Project area/river channel
Timing:	Post-construction
Monitoring:	Inspect fencing and signs on a regular basis and repair/replace as needed
Reporting Requirements:	Record condition of facilities in operations and maintenance log book

Description of Activities:

Prior to opening the site, PCWA's water supply facilities (on land) would be enclosed, to the extent feasible, in order to minimize public access or injury.

Signs indicating PCWA's ownership of the structures/facilities and warning of potential hazards would be posted in strategic locations to discourage unauthorized access.

CDPR's patrolling of the area will provide further management and reduction of potential unauthorized use.

Minimize Potential for Disturbance of Asbestos and Exposure of Construction Personnel or General Public During Project Construction

Commitment:	Reclamation will determine the potential for asbestos-containing rock to be encountered at the Project site. Depending upon the likelihood of such, the Construction Contractor will be required to implement air emission control measures to reduce the level of asbestos emissions during construction; as determined appropriate for the Project site and specific earthwork activities.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area
Timing:	During all phases of construction (2002 through 2004)
Monitoring:	Inspect Project area and indicate compliance with Placer County APCD, El Dorado County APCD, and CARB requirements, as applicable.
Reporting Requirements:	Construction compliance reports/daily inspector reports

Description of Activities:

Reclamation will determine the presence of and potential for construction to disturb asbestos-containing rock areas in the Project area. Should the likelihood be determined to be low, Reclamation will require the controls listed below as contingency measures in the construction contract, to be implemented in the event asbestos is encountered during earthwork.

As a precautionary measure, the construction specifications will require the contractor to obtain air samples periodically during earth moving and drilling operations to document whether an asbestos hazard exists.

Reclamation will require the Construction Contractor to meet all applicable requirements of the Placer County APCD, El Dorado County APCD (Ordinance 4548), and CARB for any grading, excavation or other construction that potentially could result in the disturbance of asbestos-containing rock. Provisions that may apply include the following:

- ❑ Apply chemical soil stabilizers to inactive construction areas.
- ❑ Regularly clean construction equipment.
- ❑ Suspend all grading operations when instantaneous wind speeds exceed 25 miles per hour.
- ❑ Stabilize exposed or disturbed areas as soon as possible after disturbance.

If required, implement additional measures required by CARB for Asbestos Control

If asbestos-containing rock areas are determined to occur on site, construction personnel exposure to asbestos will be reduced by the implementation of standard California Occupational, Safety, and Health Administration protective measures including monitoring, awareness training and personal hygiene. The construction management plan will include practices to reduce public exposure to asbestos fibers. Such practices will include:

- ❑ Geotechnical survey of excavation areas to map areas of serpentine rock.
- ❑ Public notification regarding blasting and earthwork prior to and throughout construction.
- ❑ Closure of site to public access with warning signs alerting the public to potential exposure to asbestos.
- ❑ Monitoring of residential and Project site asbestos levels during earthwork and blasting.
- ❑ Watering of active construction areas to minimize air dispersal of asbestos and dust.
- ❑ Worker education briefings regarding risks and ways to minimize health risks including personal hygiene practices. In addition, minimize worker exposure by implementing an asbestos mitigation plan and by requiring proper protective clothing and respiratory devices if deemed necessary after monitoring asbestos concentrations.

Minimize Potential for Disturbance of Asbestos and Exposure of Construction Personnel or General Public During Project Construction

Commitment: Reclamation will determine the potential for asbestos-containing rock to be encountered at the Project site. Depending upon the likelihood of such, the Construction Contractor will be required to implement air emission control measures to reduce the level of

	asbestos emissions during construction; as determined appropriate for the Project site and specific earthwork activities.
Responsible Parties:	Reclamation/Construction Contractor
Location:	Project area
Timing:	During all phases of construction (2002 through 2004)
Monitoring:	Inspect Project area and indicate compliance with Placer County APCD, El Dorado County APCD, and CARB requirements, as applicable.
Reporting Requirements:	Construction compliance reports/daily inspector reports

Description of Activities:

Reclamation will determine the presence of and potential for construction to disturb asbestos-containing rock areas in the Project area. Should the likelihood be determined to be low, Reclamation will require the controls listed below as contingency measures in the construction contract, to be implemented in the event asbestos is encountered during earthwork.

As a precautionary measure, the construction specifications will require the contractor to obtain air samples periodically during earth moving and drilling operations to document whether an asbestos hazard exists.

Reclamation will require the Construction Contractor to meet all applicable requirements of the Placer County APCD, El Dorado County APCD (Ordinance 4548), and CARB for any grading, excavation or other construction that potentially could result in the disturbance of asbestos-containing rock. Provisions that may apply include the following:

- ❑ Apply chemical soil stabilizers to inactive construction areas.
- ❑ Regularly clean construction equipment.
- ❑ Suspend all grading operations when instantaneous wind speeds exceed 25 miles per hour.
- ❑ Stabilize exposed or disturbed areas as soon as possible after disturbance.

3.18 OTHER IMPACT CONSIDERATIONS

3.18.1 INDIAN TRUST ASSETS

Indian Trust Assets (ITAs) are legal interests in property and rights held in trust for Indian tribes or individuals by the United States. Although there is no concise legal definition of ITAs, courts have traditionally interpreted them as being tied to real property. Indian reservations, rancherias, and allotments are common ITAs. Types of actions that could affect ITAs include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right, impacts to fish and wildlife where there is a hunting or fishing right, or noise near a land asset where it adversely impacts uses of reserved land. It is Reclamation's policy to protect ITAs from adverse impacts resulting from its programs and activities. There have been no ITAs identified within the project study area. The Proposed Project or alternatives would not result in adverse impacts to ITAs.

3.18.2 ESSENTIAL FISH HABITAT

The 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) added a provision for federal agencies to consult with NMFS on impacts to EFH. EFH are specifically identified waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. In the Mid-Pacific Region, the Pacific Fishery Management Council designates EFH and NMFS approves the designation.

EFH only applies to commercial fisheries. For the action addressed within this EIS/EIR, this means all chinook salmon habitat, but not steelhead habitat. EFH includes all anadromous streams (including some intermittent streams) up to impassable barriers. In the American River basin, EFH includes the lower American River up to Nimbus Dam. In the Central Valley, it also includes accessible waters of the Delta, Sacramento River, and tributaries up to impassable barriers. Keswick Dam represents the first impassable barrier on the Sacramento River, within the study area.

Federal agencies must consult with NMFS on all actions that may adversely affect EFH (Section 305 (b)(2) of the MSFCMA). The NEPA review process may be used to satisfy EFH consultation requirements. Thus, a separate EFH document is not needed. Information contained within the EIS/EIR regarding potential effects of implementation of the pump station project satisfy analytical requirements for EFH for Central Valley fall-run chinook salmon throughout the potentially affected area including Auburn Ravine and other tributaries of the Sacramento River. Specifically, PCWA identified an operational change that would involve maintaining its North Fork American River water releases to Auburn Ravine within the limits of recent historical monthly maximums, thereby avoiding potential changes to the existing quantity, seasonal distribution, or source water composition. Hence, impact considerations in Auburn Ravine and other potentially affected tributaries of the Sacramento River focus on the issues of straying and "false attraction," which are thoroughly analyzed and discussed in the Auburn Ravine Master Response (see Appendix C, Volume 1, Responses to Comments, Master Response 3.1.13, Auburn Ravine, for further detail). Implementation of the Proposed Project or

alternatives would not be expected to adversely affect fall-run chinook salmon essential fish habitat.

3.18.3 ENVIRONMENTAL JUSTICE

Executive Order 12898, Environmental Justice, requires that review of proposed federal actions analyze any disproportionately high and adverse environmental or human health effects on minority and low-income communities. No disproportionately high or adverse environmental or human health impacts on minority or low-income communities have been identified for this project.

3.18.4 IRREVERSIBLE AND IRRETRIEVABLE USE OF RESOURCES

Irreversible commitments of resources would result from implementing either the Proposed Project or alternatives. These resources include:

- ❑ Construction materials
- ❑ Labor
- ❑ Land area devoted to project facilities; and
- ❑ Energy needed for construction, operation, and maintenance.

Up to 0.11 acre of wetlands would be permanently lost under the Upstream Diversion Alternative. This acreage would be replaced according to the terms of the Corps' consultation and permitting process.

3.18.5 SHORT-TERM USES OF THE ENVIRONMENT VERSUS LONG-TERM PRODUCTIVITY

CEQA Guidelines Section 15126(e) requires discussion of the “relationship between local short-term use of man’s environment and the maintenance and enhancement of long-term productivity.” This discussion addresses how the implementation of the proposed actions would affect the long-term productivity of the natural and human environment. Long-term refers to the time period that includes the operational life of the new facilities and beyond.

Installation of a year-round pump station would increase the reliability and availability of water supplies for PCWA. This increased reliability and availability would help PCWA meet current and projected demands, thus supporting the economic viability of the project service area. The project would have short-term impacts on air quality, habitat of wildlife species, recreation, and noise, but these impacts are not expected to alter the long-term productivity of the natural environment.

The Proposed Project includes restoration of the currently dewatered segment of the North Fork American River, resulting in increased habitat availability for fish and aquatic resources in the project vicinity. This habitat alteration represents a long-term beneficial effect on fish resources and aquatic habitat. Additionally, fish passage conditions through the project area would be

greatly improved through river restoration, providing a long-term benefit to fish species of the American River.

The Proposed Project would have long-term beneficial effects on water supply, fish and terrestrial resources and recreation. On balance, these long-term improvements or benefits outweigh the potentially significant short-term impacts to environmental resources in the project area.

3.18.6 CLIMATE CHANGE

Long-term climate change is a well-documented phenomenon. Based on predictions made by the Global Change Research Program, climate (air) temperatures in the United States are expected to rise between three to five degrees in the next 100 years. Some very likely consequences of climate change include an increase in precipitation and reduced snow pack. Locally, the American River may be expected to see alterations in the timing and amount of watershed flow patterns. The Global Research Program identified key issues in the West to be: (1) changes in water resources, (2) changes in natural ecosystems, (3) agricultural effects and shifts in tourism, and (4) recreation. A potentially important impact on water resources will be the potential change in amount and timing of peak flows. It also is likely that current reservoir systems eventually will be inadequate to control anticipated occurrences of earlier spring runoff and then maintain supplies for the summer. However, the Global Research Program states, "More research is necessary to identify which systems are most vulnerable."

Therefore, while it is considered inevitable that climate change will occur, the consequences of climate change are largely speculative and also will be likely to result in other unexpected consequences. The most foreseeable effect that climate change would have on the American River pump station is in regards to whether the pump station is positioned high enough to avoid damage from increased river flows. The Proposed Project's design specifications place the station at a 100-year flood elevation. This location is expected to be more than adequate to withstand anticipated high river flows. However, ongoing monitoring, operation and maintenance of the facility would identify incremental changes in seasonal river flow patterns that may affect the reliability of the system. Preventive measures to protect facilities would be taken as needed. No adverse impacts due to long-term climate change are anticipated.

Climate change impacts on resources (e.g. fisheries) are speculative. Unfortunately, based on the current research and documentation available, there is no scientifically sound way of predicting absolutes resulting from climate change. For example, water quality could either improve or degrade. In some areas, more precipitation would, very likely, increase contaminant levels (such as agricultural chemicals) and sediments in lakes and rivers. However, in other regions, higher flows would likely dilute pollutants and potentially improve water quality. Massive dislocations of species or pest outbreaks may/may not be a consequence of climate change. Many of the biological impacts are too complex for accurate impact analysis. Therefore, while the effects of climate change are extremely important to analyze, the level of scientific research needed in order to formulate an accurate response is outside the scope of the American River Pump Station Project. The construction design of the pump station utilizes all available data to ensure that it will be a safe and long-lived facility.

3.19 ENDANGERED SPECIES ACT COMPLIANCE

The Mid-Channel Diversion Alternative is the project or action under consideration and being evaluated by the resource agencies for ESA compliance. This alternative is referred to as the Proposed Project throughout the Draft EIS/EIR and in the following discussions. Because ESA and NEPA refer to the project as an "action," the terms Proposed Project and action may be used interchangeably in the following discussions.

3.19.1 INTRODUCTION

Section 3.5 (Fish Resources and Aquatic Habitat) and Section 3.6 (Terrestrial Resources) and the Cumulative Report provide much of the information and analysis requirements of a biological assessment for the Proposed Project. This information, along with that presented below, will help determine to what extent the Proposed Project may affect any of the endangered, threatened, proposed, or candidate species that may occur in the regional study area. Additional information needed to satisfy biological assessment requirements, but not already included in the EIS/EIR or Cumulative Report, is provided in this section. This information is prepared in accordance with legal requirements set forth under Section 7 of the ESA (16 USC 1536 (c)), and follows the standards established in the Reclamation NEPA guidelines and the NMFS and USFWS Endangered Species Consultation Handbook.

The Proposed Project area is within the Auburn, Colfax, Coloma, Greenwood, Gold Hill, Citrus Heights, Rio Linda, Roseville, Sheridan, Lincoln, Pleasant Grove, Camp Far West, Lake Combie, Wolf, Rocklin, and Pilot Hill USGS quadrangles. The regional study area includes Trinity and Shasta reservoirs, the upper and lower Sacramento River, the Yuba, Feather, and Cosumnes rivers, the Delta, and Folsom Reservoir and the lower American River.

3.19.1.1 Endangered, Threatened, or Proposed Species

Sacramento River Winter-run Chinook Salmon - Endangered

NMFS listed the Sacramento River winter-run chinook salmon as "endangered" on July 16, 1993 (59 *Federal Register* (FR) 440). The ESA defines the term "*endangered species*" as "*any species that is in danger of extinction throughout all or a significant portion of its range.*" NMFS concludes that winter-run chinook salmon in the Sacramento River warrant listing as an endangered species due to several factors, including: (1) the continued decline and increased variability of run sizes since its first listing as a threatened species in 1989; (2) the expectation of weak returns in certain years as the result of two small year classes (1991 and 1993); and (3) continued threats to the population. On November 5, 1990, the NMFS section 4(d) rule prohibiting the "take" of Sacramento River winter-run chinook salmon (when winter-run chinook salmon was listed threatened) went into effect (65 FR 42421).

Central Valley Steelhead Evolutionary Significant Unit - Threatened

NMFS listed the Central Valley ESU of steelhead as "threatened" on March 19, 1998 (63 FR 13347). Section 3 of the ESA defines the term "*threatened species*" as "*any species which is*

likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." NMFS concludes that steelhead in the Central Valley ESU warrant listing as a threatened species due to numerous factors, including: (1) naturally spawning steelhead in Central Valley streams occur in small numbers; (2) many populations are of non-native, mixed, or uncertain origin; (3) long-term declines in abundance; (4) high risk of interbreeding between hatchery and naturally spawned steelhead; (5) loss of historic habitat; (6) degradation of remaining habitat; (7) reduction in water quality and other factors; and (8) lack of monitoring data on abundance (65 FR 13368: March 19, 1998). On September 8, 2000, the NMFS section 4(d) rule prohibiting the "take" of Central Valley steelhead went into effect (65 FR 42421).

Central Valley Spring-run Chinook Salmon ESU - Threatened

NMFS listed the Central Valley ESU of spring-run chinook salmon as "threatened" on September 16, 1999 (64 FR 50393). NMFS concludes that spring-run chinook salmon in the Central Valley warrant listing as threatened due to varied human-induced factors, including: (1) habitat degradation; (2) water diversions; and (3) artificial propagation that serves to exacerbate the adverse effects of natural environmental vulnerability from such factors as drought, flood, and poor ocean conditions (64 FR 5049: September 16, 1999). NMFS has not yet adopted a section 4(d) rule for Central Valley spring-run chinook salmon. NMFS will propose such protective measures for spring-run chinook salmon in a forthcoming *Federal Register* document. However, under Section 7 of the ESA federal agencies must consult with NMFS if any activity they authorize, fund, or carry out may affect listed chinook salmon ESUs (55 FR 46515: September 16, 1999).

Sacramento Splittail - Threatened

USFWS listed Sacramento splittail as "threatened" on February 8, 1999 (64 FR 5963). USFWS concludes that Sacramento splittail warrant listing as threatened due to several factors, including: (1) changes in water flows and water quality resulting from the export of water from the Sacramento and San Joaquin rivers; (2) periodic prolonged drought; (3) loss of shallow-water habitat; (4) introduced aquatic species; and (5) agricultural and industrial pollutants (64 FR 5963: February 8, 1999). Critical habitat has not been designated for Sacramento splittail. USFWS has not yet adopted a 4(d) rule for the Sacramento River splittail. On August 17, 2001, USFWS announced re-opening of the comment period for the final rule on the Sacramento splittail to *"....invite comments and to obtain peer-review on the statistic analysis completed by the Service to re-analyze the available splittail abundance data."* USFWS also is inviting additional comments on the status of the species (66 FR 43145).

Delta Smelt - Threatened

USFWS listed delta smelt as "threatened" on March 5, 1993 (58 FR 12863). USFWS concludes that delta smelt warrant listing as threatened due to several factors, including: (1) large freshwater exports from the Sacramento River and San Joaquin River diversions for agricultural and urban use; (2) prolonged drought; (3) introduced nonindigenous aquatic species; (4)

reduction in abundance of key food organisms; and (5) agricultural and industrial chemicals (58 FR 12863: March 5, 1993). USFWS has not yet adopted a 4(d) rule for delta smelt.

Bald Eagle - Threatened

USFWS listed bald eagle as "threatened" on July 5, 1995 (64 FR 5963). USFWS also adopted a 4(d) rule for the bald eagle, further protecting the species. The bald eagle historically ranged throughout North America, except extreme northern Alaska and Canada and central and southern Mexico. Critical Habitat has not been designated for the bald eagle. On July 6, 1999, the USFWS proposed to remove the bald eagle from the list of endangered and threatened wildlife in the contiguous United States. USFWS concludes that the bald eagle warrant delisting as a threatened species because the species has recovered due to protection and management actions initiated under ESA and reduction in levels of persistent organochlorine pesticides occurring in the environment.

Valley Elderberry Longhorn Beetle - Threatened

USFWS listed VELB as "threatened" on August 8, 1980 (45 FR 52803). Several factors contribute to the listing of VELB as threatened, including: (1) degradation of undisturbed patches of riparian habitat; (2) extensive clearance of riparian forest for fuel and building material and agricultural, as well as urban and suburban development; (3) extensive use of pesticides; and (4) overgrazing.

The Proposed Project site was examined for the presence of VELB, as well as other listed species that have the potential to occur at the site. Elderberry shrubs, the sole habitat of VELB, have been reported upstream of the project area on the north side of Tamaroo Bar (MW and JSA 1995). No exit holes, which would indicate the presence of VELB, were found on the trunks of the elderberry cluster. Also, no elderberry shrubs were observed in or around the areas proposed for construction during the project site surveys. However, USFWS has designated the American River Parkway as Critical Habitat for this beetle (USFWS 1996). This species has been recorded in elderberry shrubs near backwater ponds along the lower American River.

California Red-Legged Frog - Threatened

The Proposed Project site was examined for the presence of the California red-legged frog. Surveys and research indicate that the California red-legged frog is not likely to occur at the project site (Carrier 1998; Carrier 2002). Wetlands suitable for the California red-legged frog are not present in the project area. In addition, suitable sites for the California red-legged frog in adjacent areas are inhabited by bullfrogs, thereby precluding occupancy by the red-legged frog in the Proposed Project area.

3.19.1.2 Candidate Species

For the Proposed Project, Central Valley fall-run and late fall-run chinook salmon are the only candidate species under the federal ESA.

Central Valley Fall-run and Late-fall-run Chinook Salmon Evolutionary Significant Unit - Candidate Species

NMFS concluded in its September 16, 1999 determination that, even though the Central Valley fall-run and late-fall-run chinook salmon ESU do not warrant listing, NMFS considers these species candidate species. NMFS will reevaluate the status of Central Valley fall-run and late-fall-run chinook salmon ESU as new information becomes available to determine whether listing may be warranted (64 FR 50412: September 16, 1999). Although federal candidate species are generally considered in federal environmental documents and may be included in Conservation Plans prepared as part of the application for a Section 10 incidental-take permit under the ESA, they are not provided protection, nor are take prohibitions required, under the ESA.

3.19.1.3 Critical Habitat

The Proposed Project addressed within this EIS/EIR falls within Critical Habitat for the Sacramento River winter-run chinook salmon, delta smelt and VELB. Sacramento River winter-run chinook salmon Critical Habitat was designated by NMFS on June 16, 1993 (58 FR 33212). Critical Habitat for delta smelt was designated by USFWS on December 19, 1994 (58 FR 12863). Final Critical Habitat for VELB was designated by the USFWS on August 8, 1980 (45 FR 52803).

Critical Habitat for Sacramento River winter-run chinook salmon is designated to include the Sacramento River from Keswick Dam, Shasta County to Chipps Island at the westward margin of the Delta, all waters from Chipps Island westward to Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge (58 FR 33212: June 16, 1993).

Critical Habitat for Central Valley steelhead previously was designated but recently was withdrawn to include all river reaches accessible to listed steelhead in the Sacramento and San Joaquin rivers and their tributaries in California. Also included were river reaches and estuarine areas of the Delta, all waters from Chipps Island westward to the Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge (65 FR 7779: February 16, 2000).

Critical Habitat for Central Valley spring-run chinook salmon previously was designated to include all river reaches accessible to listed chinook salmon in the Sacramento River and its tributaries in California but recently was withdrawn. Also included were river reaches and estuarine areas of the Delta, all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge (65 FR 7778: February 16, 2000).

Critical Habitat for delta smelt is designated in areas of all water and all submerged lands below the ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); and Montezuma sloughs; and the existing contiguous waters contained within the Delta, as defined in section 12220 of the California Water Code (58 FR 12863: December 19, 1994).

Critical Habitat for the VELB is designated in an area in the City of Sacramento enclosed on the north by the Route 160 Freeway, on the west and southwest by the Western Pacific Railroad Tracks, and on the east by Commerce Circle and extends southward to the railroad tracks (NSFR 52803: August 8, 1980). The USFWS has designated the American River Parkway as critical habitat for this beetle (USFWS 1996).

3.19.1.4 Essential Fish Habitat

The 1996 reauthorization of the MSFCMA added a provision for federal agencies to consult with NMFS on impacts to EFH. EFH only applies to commercial fisheries; therefore, for the Proposed Project, this means all chinook salmon habitat, but not steelhead habitat. EFH includes specifically identified waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. In the Mid-Pacific Region, the Pacific Fishery Management Council designates EFH, and NMFS approves the designation.

EFH includes all anadromous streams (including some intermittent streams) up to impassable barriers. In the American River Basin, EFH includes the lower American River up to Nimbus Dam. In the Central Valley, it also includes accessible waters of the Delta, Sacramento River, and tributaries up to impassable barriers. Keswick Dam represents the first impassable barrier on the Sacramento River, within the regional study area.

Federal agencies must consult with NMFS on all actions that may adversely affect EFH (Section 305 (b)(2) of the MSFCMA). The NEPA review process may be used to satisfy EFH consultation requirements. Thus, a separate EFH document is not needed. Information contained within this Final EIS/EIR regarding potential effects of implementation of the pump station project satisfy analytical requirements for EFH for Central Valley fall-run chinook salmon.

3.19.2 CONSULTATION TO DATE

3.19.2.1 U.S. Fish and Wildlife Service

August 28, 1998 – PCWA submits a draft Biological Assessment to the USFWS for use in consultation on the Proposed Project.

February 3, 1999 – USFWS, Reclamation, and PCWA meet to discuss the scope of the consultation, including conditions or other conservation measures for the Proposed Project. USFWS agrees that the scope of the consultation for the project will not require assessment of the CVP contract issues. However, USFWS indicates that an evaluation of potential service area effects must still be included in the information provided to USFWS as part of this consultation.

The consultation and coordination with USFWS will require the evaluation of potential direct, indirect, and cumulative impacts at the Proposed Project site, within the affected portion of the service area, and upstream and downstream of the Proposed Project site, based on the hydrologic analysis.

March 15, 1999 – USFWS, Reclamation and PCWA meet to continue discussion of the scope of the consultation and terms and conditions for the Proposed Project. USFWS requests additional discussion in the environmental document of other species that may be affected by the Proposed Project's operation, and expresses the need to mitigate for the loss of habitat, particularly special habitat such as wetlands or riparian areas. Reclamation suggests a draft biological assessment be used to formulate a draft biological opinion, rather than preparing a final biological assessment.

March 30, 1999 – At a meeting, PCWA provides to USFWS an updated description of the Proposed Project and has available service area maps, aerial photographs, and photographs of the existing facilities in response to a USFWS information request. Reclamation's suggestion regarding preparing a draft biological assessment is discussed further, and it is decided that PCWA will prepare the draft EIS/EIR to satisfy ESA and FWCA coordination requirements.

May 3, 1999 – USFWS, Reclamation, and PCWA visit the Proposed Project site and continue discussions related to Proposed Project conditions and draft biological assessment preparation. Following the site visit, USFWS indicates that, primarily due to the extremely disturbed nature of the Proposed Project site, site-specific ESA considerations will not be an issue. However, it is decided to have a focused field survey of wetland area(s) for elderberry shrubs. All parties agree to proceed with a draft BO. It is also agreed that the BO will incorporate conservation measures specific to PCWA, and that the USFWS will pursue municipal measures separately.

November 1999 – USFWS sends a letter to Reclamation advising them that they will not be required to prepare a service area analysis for the Proposed Project. An assessment of service area impacts within the PCWA service area will be completed for the CVP water service contract amendment. This analysis is included in the Cumulative Report (Appendix D of the Draft EIS/EIR).

December 15, 1999 – USFWS, Reclamation and PCWA meet to discuss the Proposed Project. It is relayed that NMFS wants to consult on the Proposed Project.

December 21, 1999 – USFWS sends Draft PAM to Reclamation detailing the scope of the cumulative impact analysis.

December 28, 2000 – USFWS sends revised Draft PAM to Reclamation.

Since December 2000, USFWS, Reclamation and PCWA have participated in additional meetings to consider the potential effects of the Proposed Project on listed species. In May 2002, PCWA agreed to not supply retail treated water service to new developments within environmentally sensitive areas of western Placer County until USFWS has certified that the new development is consistent with the interim conservation strategies of the Placer County Habitat Conservation Plan, that is to be prepared at a later date. Environmentally sensitive areas within

western Placer County as used above refers to that area within Placer County west of Highway 65, south of the proposed Highway 65 Lincoln Bypass, and north of Pleasant Creek.

Reclamation, at USFWS request, retained a qualified biologist to perform an additional habitat assessment and site survey for California red-legged frogs, March 2002 and June 2002, respectively. The habitat assessment and site survey both concluded that it would be unlikely for California red-legged frogs to utilize the project area. These findings will be provided to USFWS for consideration during preparation of the Biological Opinion for the Proposed Project.

The Biological Opinion must be completed by USFWS and considered by Reclamation prior to issuance of the Record of Decision for the project.

3.19.2.2 National Marine Fisheries Service

June 16, 2000 – Reclamation meets with NMFS to obtain guidance regarding fish species prioritization in application of target temperature schedules for use in the Cumulative Report. NMFS directs Reclamation to prioritize management of the Folsom Reservoir coldwater pool for steelhead, because fall-run chinook salmon is a candidate species (versus the federally listed threatened species status of steelhead), and because of steelhead over-summer rearing.

October 30, 2000 – Reclamation sends a letter to NMFS requesting their concurrence in use of the multi-species balance temperature schedules in modeling for the Cumulative Report. This approach replaces the steelhead prioritization approach. Because both steelhead and fall-run chinook salmon require consultation, as species of primary management concern, a schedule of target temperatures is developed to address multi-species objectives.

November 30, 2000 – NMFS, Reclamation, and PCWA meet regarding: (1) Folsom Reservoir cold water pool management and temperature modeling for a multi-species approach; (2) consultation needs and procedures; and (3) the content, organization and completion timeline of the Project EIS/EIR and Cumulative Report.

December 15, 2000 – NMFS sends a letter to Reclamation to express their concurrence with the use of the multi-species temperature objective model for the Cumulative Report.

February 8, 2001 – Reclamation sends to NMFS the report outlines for the Project EIS/EIR and Cumulative Report.

Reclamation has continued its coordination effects with NMFS since issuing the Draft EIS/EIR in September 2001. In May 2002, Reclamation and PCWA met with and provided NMFS with updated information describing proposed “double-pump” procedure to minimize impacts to fish resources in Auburn Ravine.

The Biological Opinion must be completed by NMFS and considered by Reclamation prior to issuance of the Record of Decision for the project.

3.19.3 CURRENT MANAGEMENT DIRECTION

PCWA is a member of the Water Forum, a diverse group of water agencies, business groups, agricultural interests, environmentalists, citizen groups, and local governments (stakeholders) that have been working since the fall of 1993 evaluating future water needs and supplies in the Sacramento area. The Water Forum has formulated a Water Forum Proposal for the effective long-term management of the region's water resources. The Water Forum Proposal was formulated based on the two coequal objectives of the Water Forum: (1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. The Water Forum Proposal has seven linked elements, including *"Support for an improved pattern of fishery flow releases from Folsom Reservoir."*

The Water Forum Proposal was refined into a Water Forum Agreement (in the form of a Memorandum of Understanding among stakeholder agencies). The Water Forum Agreement contains PCWA's purveyor specific agreement that includes provisions for PCWA diversions in drier and driest years. Under this agreement, when projected March through November unimpaired inflow to Folsom Reservoir is less than 950,000 AF, PCWA will replace to the American River a portion of the water diverted at the pump station by reoperation of the MFP reservoirs (referred to as "replacement water"). This arrangement is contingent upon agreements with PG&E and a willing buyer downstream of the project site. The replacement would start when the unimpaired inflow is less than 950,000 AF and would reach a maximum of 27,000 AF when the unimpaired inflow is less than 400,000 AF. Replacement water operations were modeled as delivery to Folsom Reservoir from MFP reservoirs in equal monthly amounts during the months of March through September. The maximum replacement was 27,000 AF corresponding to a Folsom Reservoir unimpaired inflow of 400,000 AF. For a Folsom Reservoir unimpaired inflow between 950,000 AF and 400,000 AF, the replacement water is linearly interpolated between zero and 27,000 AF.

3.19.4 PURPOSE OF THE PROPOSED PROJECT

The purpose of the Proposed Project is threefold: (1) to provide facilities to allow PCWA to convey its MFP water entitlement to the Auburn Ravine Tunnel (also referred to locally as the Ophir Tunnel) to meet demands within its service area; (2) to eliminate the safety issue associated with the Auburn Dam bypass tunnel; and (3) to allow for beneficial uses of water in what is now the dewatered river channel, including recreation, navigation, and other instream beneficial uses.

3.19.5 DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project evaluated in the EIS/EIR consists of increasing diversions from the American River from 50 cfs up to 100 cfs. This water would be delivered within PCWA Service Area Zones 1 and 5, and possibly the Citizens Utilities Placer County Franchise Area (see Figure 3.2-1) to serve as a back-up M&I and agricultural supply to the Drum-Spaulding Project. This water also would accommodate future planned urban development within the service area.

Because the water supply removes a potential obstacle to growth in Placer County, the project is considered growth-inducing.

Consistent with the project objectives, the design of the individual facilities would provide capacity for a future potential expansion diversion of up to 225 cfs. Sizing the facilities to accommodate the potential expanded diversion amount minimizes environmental effects and costs associated with meeting project objectives. The future expansion would involve installation of higher capacity pumps and increased diversion from the river, the details of which remain undetermined at this time. Expansion of the pump station and any increase of diversions above 100 cfs, including extension of infrastructure to GDPUD, would be subject to additional environmental review and resource agency approvals and permitting.

The major features and activities associated with construction of the Proposed Project include:

- ❑ Construction of a new pump station, placed above the 100-year flood level;
- ❑ Construction of a water diversion/intake structure;
- ❑ Installation of a CDFG-approved fish screen;
- ❑ Closure of the bypass tunnel;
- ❑ Restoration of flow to the American River channel;
- ❑ Installation of water conveyance pipelines;
- ❑ Improvement and development of all-weather access roads for project construction and operation;
- ❑ Extension of power supply lines; and
- ❑ Creation of public river access sites/safety features and related improvements at the Auburn Dam site and near Oregon Bar.

For further information on the description of the Proposed Project, please refer to Section 2.2.2 of the EIS/EIR.

3.19.5.1 Conservation Measures as Part of the Description of the Proposed Project

Conservation measures are actions to benefit or promote the recovery of listed species that are included by the federal agency as an integral part of the proposed action. These measures will be taken by the federal agency or applicant, and serve to minimize or compensate for, project effects on the species under review. These may include actions taken prior to the initiation of consultation, or actions which the federal agency or applicant have committed to complete in a biological assessment or similar document (USFWS, NMFS and AFS 2001).

PCWA is developing or implementing numerous conservation measures which were discussed by PCWA, Reclamation, and USFWS during internal consultations on the Proposed Project from February through May 1999. These conservation measures include: (1) participation in the western Placer County Natural Communities Conservation Plan (NCCP); (2) resource mapping (baseline habitat inventory); (3) access to PCWA lands (by USFWS); (4) expanded place of use (PCWA and USFWS agreed that if an expanded place of use for American River MFP/pump station water was pursued, then a subsequent (and separate) consultation would be conducted); (5) vernal pool preserves (PCWA would provide mapping of vernal pool resources and would encourage associated municipalities in cooperating with the USFWS on preservation of vernal pool resources); (6) programmatic CVP biological opinions (because of Reclamation involvement in the pump station project, PCWA's actions will be consistent with those identified in the USFWS biological opinion for this project); (7) reporting (PCWA agreed to cooperate in reporting of potential impacts to biological resources or potential take of listed species); it is assumed that these reporting responsibilities will also be assigned to participants as part of the Placer County NCCP; (8) planning and communication (PCWA agreed to participate in appropriate planning and communication with USFWS to ensure the receipt of environmental documents and other CEQA-related materials by the USFWS); and (9) general operations and maintenance (PCWA agreed to implement a system of operations and maintenance (O&M) procedures that would incorporate species protection measures).

As indicated earlier, PCWA also recently agreed to not supply retail treated water service to new developments within environmentally sensitive areas of western Placer County until USFWS has certified that the new development is consistent with the interim conservation strategies of the Placer County Habitat Conservation Plan, that is to be prepared at a later date. Environmentally sensitive areas within western Placer County as used above refers to that area within Placer County west of Highway 65, south of the proposed Highway 65 Lincoln Bypass, and north of Pleasant Creek.

Additionally, PCWA has proposed to undertake a flow and water temperature monitoring program for Auburn Ravine, despite the absence of any expected adverse significant impacts on the aquatic resources of Auburn Ravine from the Proposed Project. Flow and water temperature data will be collected to develop a database for future use in decision-making regarding Auburn Ravine resources. The objective of the flow monitoring is to enhance the ability of resource and water managers to determine water quantities of Auburn Ravine. The water temperature monitoring element objective is to collect data to enable assessment of the effects of watershed activities on Auburn Ravine water temperatures. The program includes installation of seven new flow gages and eight new temperature recorders at strategic locations along Auburn Ravine and near the American River pump station. The program is described in greater detail in the Mitigation Plan (Appendix D to the Final EIS/EIR).

The Water Forum, of which PCWA also is a member, is implementing and proposing to implement numerous additional protection, mitigation, and enhancement measures for threatened and endangered species in the lower American River. Many of these measures require, or will require, a significant commitment of resources, and could result in major enhancement of habitat, or reduction in potential effects on listed species.

Reclamation is involved in numerous conservation measures throughout the CVP. On the American River, Reclamation is providing several conservation measures associated with impact avoidance and mitigation measures for specific actions, including a TCD at Folsom Dam and a TCD at the EID intake in Folsom Reservoir. Reclamation also is directly involved in the implementation of other basin-wide efforts such as CALFED, the CVPIA, and the Central Valley Project Conservation Program. In addition, Reclamation continues to be an active participant in the Water Forum process and development of an updated lower American River flow release regime, and flow fluctuation criteria. Reclamation recently sponsored a Value Analysis workshop addressing temperature improvement for the Folsom-Nimbus complex, and continues to convene the Lower American River Operations Working Group. Reclamation also continues to be an active participant in the development of the Aquatic Resources Management and Restoration Plan for the lower American River, and the development of the River Corridor Management Plan for the lower American River.

Implementation of the Proposed Project would result in restoration of the North Fork American River channel in the Auburn Dam construction area. These efforts would include closure of the bypass tunnel and restoration of the currently dewatered channel. In addition, the river restoration design considerations include creation of natural river system features to provide and enhance fish and wildlife habitat of the area.

3.19.6 ACTION AREA

The action area is defined in 50 CFR 402.14(g)(3) as the immediate area involved in the action and the entire area where effects to listed species extend as a direct and indirect effect of the action. For purposes of the Proposed Project, the action area includes the direct effect study area defined as the upper American River from Ralston Afterbay on the Middle Fork American River to the Middle Fork confluence with the North Fork American River, downstream along the North Fork to downstream of Oregon Bar, north of Folsom Reservoir. The direct effect action area also includes the Auburn Dam construction area where the footprint of the Proposed Project facilities would be placed. The indirect effect, or regional study area, encompasses a broad geographic region addressing both diversion-related influences within the CVP system and secondary land-based resources within the water service study area. Due to the coordinated and integrated operations of CVP and SWP system components, the diversion-related regional study area encompasses the Trinity Reservoir/Shasta Reservoir components of the upper Sacramento River, the Sacramento River, the upper American River, Folsom Reservoir, the lower American River downstream to the confluence with the Sacramento River, the Delta, and the Feather, Yuba, and Cosumnes rivers.

3.19.6.1 Species Accounts and Status of the Species in the Action Area

Sacramento River Winter-run Chinook Salmon

Winter-run chinook salmon is a federally endangered species under the ESA. Winter-run chinook salmon Critical Habitat was designated by NMFS on June 16, 1993 (58 FR 33212). A status review of winter-run chinook salmon was conducted by NMFS prior its listing as endangered in 1993. The Winter-run Chinook Salmon Biological Opinion was completed in

February 1993. For further description and additional detail of the winter-run chinook salmon species account for the Proposed Project, please refer to the winter-run chinook salmon status review and biological opinion.

Recovery Plan Implementation

NMFS completed a proposed recovery plan for the federally endangered Sacramento River winter-run chinook salmon in August 1997. The goal of the recovery plan is “*to establish a framework for the recovery of the Sacramento River winter-run chinook salmon population through a logical program of improving the habitat and the species*” (NMFS 1997). According to NMFS, the recovery of the winter-run chinook salmon “*requires actions which increase their abundance and improve their habitat to the point that the probability of subsequent extinction will be very low.*” (NMFS 1997). For further description and additional detail of the recovery plan for winter-run chinook salmon in the Proposed Project regional study area, please refer to *NMFS Proposed Recovery Plan for the Sacramento River Winter-run Chinook Salmon* (1997).

Central Valley Steelhead

Central Valley steelhead is a federally threatened species under the ESA. Central Valley steelhead Critical Habitat was previously designated by NMFS on February 16, 2000 (65 FR 7778) but recently was withdrawn. For further description and additional detail of the steelhead species account for the Proposed Project, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Recovery Plan Implementation

NMFS will enter the process of developing a recovery plan for California Central Valley steelhead in the near future. The recovery plan will: (1) assess the factors affecting steelhead; (2) identify recovery (delisting) goals; (3) identify the entire suite of actions necessary to achieve these goals; and (4) estimate the cost and time required to carry out those actions (NMFS 1997).

Central Valley Spring-run Chinook Salmon

Spring-run chinook salmon is a federally threatened species under the ESA. Critical Habitat for this species previously was designated by NMFS on February 16, 2000 (65 FR 7778) but recently was withdrawn. A status review of spring-run chinook salmon was conducted by NMFS in February 1998. An update of the status review for Central Valley spring-run chinook salmon was conducted on July 16, 1999. For further description and additional detail of the spring-run chinook salmon species account for the Proposed Project, please refer to the spring-run chinook salmon status review, update to the status review, and final ruling for spring-run chinook salmon (64 FR 50393).

Recovery Plan Implementation

NMFS will enter the process of developing a recovery plan for California Central Valley spring-run chinook salmon in the near future. The recovery plan will: (1) assess the factors affecting

spring-run chinook salmon; (2) identify recovery (delisting) goals; (3) identify the entire suite of actions necessary to achieve these goals; and (4) estimate the cost and time required to carry out those actions (NMFS 1999).

Sacramento Splittail

Sacramento splittail is a federally threatened species under the ESA. Critical Habitat has not been designated for Sacramento splittail. A biological opinion for Sacramento splittail was completed by USFWS in 1995, when it was then proposed threatened. For further description and additional detail of the Sacramento splittail species account for the Proposed Project, please refer to the USFWS biological opinion for the Sacramento splittail, Section 3.5, and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Recovery Plan Implementation

The Sacramento splittail is not currently included in the USFWS list of federally threatened species with a final recovery plan.

Delta Smelt

Delta smelt is a federally threatened species under the ESA. Critical Habitat for delta smelt was designated by USFWS on December 19, 1994 (58 FR 12863). A status review for delta smelt was conducted by USFWS prior to its designation as threatened in 1993. A biological opinion discussing potential impacts of CVP operations on delta smelt was completed by the USFWS in 1995. For further description and additional detail of the delta smelt species account for the Proposed Project, please refer to the USFWS biological opinion for delta smelt, the status review, and final ruling for delta smelt (58 FR 12863).

Recovery Plan Implementation

USFWS completed a proposed recovery plan for the federally threatened delta smelt in August 1996. The objective of the recovery plan is “*to remove delta smelt from the Federal list of threatened species through restoration of its abundance and distribution.*” (USFWS 1996). According to USFWS, the basic strategy to recover delta smelt is “*to manage the estuary in such a way that is better habitat for native fish in general and the delta smelt in particular.*” (USFWS 1996). For further description and additional detail of the recovery plan for delta smelt, please refer to *USFWS Recovery Plan for the Sacramento/San Joaquin Delta Native Fishes* (1996).

Central Valley Fall-run and Late Fall-run Chinook Salmon

Central Valley fall-run and late fall-run chinook salmon are federal candidate species under the ESA. The anadromous Central Valley fall-run and late-fall-run chinook salmon occur throughout the Central Valley, including the Sacramento River and its tributaries, up to impassable fish barriers. For further description and additional detail of the fall-run and late-fall-run chinook salmon species account for the Proposed Project, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Recovery Plan Implementation

Since at this time listed status has not been conferred to the Central Valley fall-run and late fall-run chinook salmon ESU (64 FR 50412), the implementation of recovery plans is not required.

Bald Eagle

Bald eagle is a federally threatened species under the ESA. Bald eagles typically are found near open water (e.g., reservoirs, lakes, and rivers). Large dead trees near open water are used for perching and are an important habitat component (USFWS 1986). Bald eagles have been observed at and around Folsom Reservoir during the winter season, although generally in low numbers (Manolis 1998). Bald eagles may occur in the action area during the winter (B. Williams, pers. comm. 1998). In addition to the ESA and CESA, bald eagles are protected under the Bald and Golden Eagle Protection Act. For further description and additional detail of the bald eagle species account for the Proposed Project, please refer to Section 3.6 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Recovery Plan Implementation

USFWS completed a proposed recovery plan for the Pacific region bald eagle in 1986. The goal of the recovery plan for the Pacific region is “a minimum of 800 nesting pairs with an average reproductive rate of 1.0 fledged young per occupied area, and an average success rate for occupied areas of not less than 65% over a 5 year period necessary for recovery. Attainment of breeding population goal should be met in at least 80% of management zone. Wintering populations should be stable or increasing.” (USFWS 1986). According to USFWS, numeric delisting goals have been met since 1995. However, the plan goal for distribution among management zones is not fully achieved for all areas. Nonetheless, the USFWS is currently proposing the removal of bald eagle from the List of Endangered and Threatened wildlife in the lower 48 states of the United States (USFWS 1986). For further description and additional detail of the recovery plan for bald eagle in the action area, please refer to *Pacific Bald Eagle Recovery Plan* (USFWS 1986).

Valley Elderberry Longhorn Beetle

The VELB is a federally threatened species under the ESA. Critical Habitat for VELB was designated by USFWS on August 8, 1980 (45 FR 52803). A status review was conducted by USFWS prior to its listing as threatened in 1980. For further description and additional detail of

the VELB species account for the Proposed Project, please refer to the VELB status review and final ruling (45 FR 52803).

Recovery Plan Implementation

USFWS completed a recovery plan for the federally threatened VELB in 1984. The goals of the recovery plan for VELB are *"to protect the three known localities, survey riparian vegetation along certain Central Valley rivers for remaining VELB colonies and habitats, provide protection to remaining VELB habitat within its suspected historic ranges, and determine the number of sites and populations."* On July 9, 1999, the USFWS issued revised conservation guidelines for VELB. This most recently issued version of the guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described in these guidelines are designed to avoid any adverse effects to the VELB and obviates the need of a permit to survey for VELB or its habitat or to monitor conservation areas (USFWS 1999). For further description and additional detail of the recovery plan and the new conservation guidelines for VELB in the action area, please refer to *Recovery Plan for the Valley Elderberry Longhorn Beetle* (USFWS 1984) and to the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999), respectively.

3.19.7 PROPOSED PROJECT, INTERRELATED, INTERDEPENDENT AND CUMULATIVE EFFECTS

This section refers to the extensive impact analysis conducted in the Draft EIS/EIR for the Proposed Project and addresses the direct and indirect effects, interrelated effects, interdependent effects, and cumulative effects. For a full discussion of the impact considerations, please see Section 3.5 and Section 3.6. This section briefly summarizes the overall impact conclusions by species and is, therefore, consistent with the NEPA/CEQA language. However, NEPA/CEQA impact significance consideration terminology is not necessarily consistent with the language specified in the USFWS and NMFS Endangered Species Consultation Handbook. Therefore, although the impacts consideration and determination summaries provided in this section are consistent with the NEPA/CEQA language determination, the conclusion and determination section utilizes the language specified in the USFWS and NMFS Endangered Species Consultation Handbook.

3.19.7.1 Direct and Indirect Effects

Direct effects are those effects caused by the Proposed Project and that occur at the time of the action. Indirect effects are those that are caused by the Proposed Project and are later in time, but still are reasonably certain to occur (USFWS, NMFS and AFS 2001).

The Proposed Project would not result in substantial changes in storage, elevation, or temperature at Oroville Reservoir, or in flow or temperature in the Feather River, relative to the existing condition. Any small changes that might occur would be considered to represent less-than-significant impacts on fisheries resources. Integrated operations of the CVP, as simulated by currently available hydrologic modeling do not directly affect the Yuba and Bear rivers. Therefore, the Proposed Project would not be expected to substantially effect fish resources and

aquatic habitat on the Yuba and Bear rivers. EID's continued use of Cosumnes River water from the Sly Park Unit at Jenkinson Lake and Camp Creek would not result in increased diversions or changes on system operations. The Proposed Project would therefore not have an affect on fish resources and aquatic habitat of the Cosumnes River. These components of the regional study area are not discussed further in this analysis.

Winter-run Chinook Salmon

Sacramento River and the Delta

Minimal potential differences in lower Sacramento River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to winter-run chinook salmon. Monthly mean flows below Keswick Dam in the upper Sacramento River would be essentially equivalent to the existing condition in most months. Modeling results indicate that monthly mean flows below Keswick Dam would not be reduced below the NMFS Biological Opinion (1993, as revised in 1995) 3,250 cfs threshold for the protection of winter-run chinook salmon rearing and downstream passage in any month of the October through March period. Long-term average water temperatures for the upper Sacramento River (i.e., Keswick Dam and Bend Bridge) would not change from the existing condition in any month of the year; in most years, individual monthly mean water temperatures would be essentially equivalent to or less than the existing condition. There potentially could be only two additional months when water temperatures could exceed 56°F or 60°F at either Keswick Dam or Bend Bridge, relative to the existing condition.

The long-term average flow at Freeport in the lower Sacramento River would be within 0.2 percent of the long-term average flow under the existing condition in all months of the year. During individual months, flow reductions of more than five percent would occur on only one occasion, relative to the existing condition, over the 70-year period of record. Based on these flow results, physical habitat availability and immigration of adult or emigration of juvenile anadromous fish would not be adversely affected relative to the existing condition. Long-term average water temperatures at Freeport would not change more than 0.1°F during any month of the year; monthly mean water temperatures would be essentially equivalent to the existing condition for all but one month of the simulation. The number of years in which water temperature would exceed index temperatures would be similar to the existing condition during the March through November period. Monthly mean water temperatures would be essentially equivalent to the existing condition for almost all months included in the analysis (827 out of 828 months).

The Proposed Project would have less-than-significant impacts to winter-run chinook salmon in the Delta. Reductions in the long-term average Delta outflow of up to only 0.3 percent for any given month of the February through May period could occur relative to the existing condition. Delta outflow reduction of more than three percent occurred during only seven individual months (out of 350 months) of the February to June period, relative to the existing condition. There would not be any shift in the long-term average position of X2, relative to the existing condition. The maximum upstream shift for any individual month (out of 350 months) of the

February through June period would be less than 1 km (i.e., 0.7 km). All simulations included conformance with SWRCB X2 and the Delta maximum export/inflow ratio requirements.

Early-Lifestage Survival

The long-term average winter-run chinook salmon early-lifestage survival would be 95.8 percent under the Proposed Project, relative to 96 percent under the existing condition. There would not be any substantial decrease in annual early-lifestage survival of winter-run chinook salmon in any individual year of the 69-year period of record, relative to the existing condition. Moreover, the long-term average percent change (i.e., relative change) in early-lifestage survival would decrease by only 0.2 percent. The relative change in early-lifestage survival ranges from a seven percent decrease to a 2.9 percent increase for all 69 years included in the simulation. For further description and additional detail of the effects of the Proposed Project on winter-run chinook salmon, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Central Valley Steelhead

Lower American River

Minimal potential differences in lower American River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to steelhead immigration, spawning and incubation, or juvenile rearing and emigration.

Sacramento River and the Delta

In the Sacramento River, potential differences in flows and water temperatures under the Proposed Project would be expected to have a less-than-significant impact to steelhead. The Proposed Project would have less-than-significant impacts to steelhead in the Delta. The effects on flows, water temperature, location of X2, and Delta outflow discussed for the Sacramento River and the Delta under the winter-run chinook salmon section also pertains to steelhead. For further description and additional detail of the effects of the Proposed Project to steelhead lifestages in the lower American River and steelhead in the Sacramento River and the Delta, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Central Valley Spring-run Chinook Salmon

Sacramento River and the Delta

Potential differences in lower Sacramento River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to spring-run chinook salmon. The Proposed Project would have less-than-significant impacts to spring-run chinook salmon in the Delta. The potential effects on flows, water temperature, location of X2 and Delta outflow, which are discussed for the Sacramento River and the Delta under the winter-run chinook salmon section, also pertain to spring-run chinook salmon.

Early-Lifestage Survival

The long-term average spring-run chinook salmon early-lifestage survival in the Sacramento River would be 87.7 percent under the Proposed Project, relative to 87.5 percent under the existing condition. There would not be any substantial decrease in annual early-lifestage survival of spring-run chinook salmon in any individual year of the 69-year period of record, relative to the existing condition. The long-term average percent change in early-lifestage survival would only decrease by one percent, relative to early-lifestage survival under the existing condition. The long-term average relative percent change of one percent is primarily due to one individual year of the 69-year period of record included in the simulation. For this individual year of the simulation (i.e., 1933), the estimated absolute survival under existing conditions is 1.8 percent and under the Proposed Project is 0.1 percent. Therefore, the absolute difference between the Proposed Project and the existing condition is only 1.7 percent. However, because early-lifestage survival would be low under the existing condition for this particular year, the relatively small absolute change in early life-stage survival translates into a very large relative change in early-lifestage survival. Excluding this one year, the long-term average relative percent change for the remaining 68 years included in the simulation would be a 0.4 percent decrease. Moreover, the largest increase in early-lifestage survival was an absolute value of 15.4 percent, which translates into an approximate 27 percent increase under the Proposed Project relative to the existing condition.

For further description and additional detail of the potential effects of the Proposed Project on spring-run chinook salmon, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Sacramento Splittail

Lower American River

Potential differences in lower American River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to Sacramento splittail spawning. The long-term average monthly flow at Watt Avenue during the February through May period would range between 0.5 to two percent less than under the existing condition. The long-term average acreage of usable riparian vegetation inundated during the February through May spawning period would not change substantially relative to the existing condition. Flow changes would have little, if any, effect on in-channel spawning habitat availability from the mouth up to RM 5. Long-term population trends of splittail would not be expected to be adversely affected, compared to the existing condition. No substantial change in the frequency of water temperature exceeding the reported preferred range for splittail spawning would occur, relative to the existing condition.

Sacramento River and the Delta

Minimal potential differences in lower Sacramento River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to Sacramento splittail. The Proposed Project would have less-than-significant impacts to Sacramento splittail in the Delta. The potential effects on flows, water temperature, location of X2 and Delta

outflow, which are discussed for the Sacramento River and the Delta under the winter-run chinook salmon section, also pertain to Sacramento splittail. For further description and additional detail of the potential effects of the Proposed Project on Sacramento splittail, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Delta Smelt

Minimal potential differences in Delta outflow and X2 position, relative to the existing condition, would be expected to have a less-than-significant impact to delta smelt. The potential effects on the location of X2 and Delta outflow, which are discussed for the Delta under the winter-run chinook salmon section, also pertain to delta smelt. For further description and additional detail of the potential effects of the Proposed Project on delta smelt, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Central Valley Fall-run and Late Fall-run Chinook Salmon

Lower American River

Potential differences in lower American River flows and water temperatures, relative to the existing condition, would be expected to have a less-than-significant impact to fall-run chinook salmon immigration, spawning and incubation, or juvenile rearing and emigration.

Sacramento River and the Delta

In the Sacramento River, potential differences in flows and water temperatures under the Proposed Project would be expected to have a less-than-significant impact to fall-run and late-fall-run chinook salmon. Also, the Proposed Project would have less-than-significant impacts to fall-run and late-fall-run chinook salmon in the Delta. The potential effects on flows, water temperature, location of X2, and Delta outflow discussed for the Sacramento River and the Delta under the winter-run chinook salmon section, also pertain to fall-run and late fall-run chinook salmon.

Early Lifestage Survival

Fall-run chinook salmon long-term early-lifestage average survival in the lower American River would slightly increase under the Proposed Project relative to the existing condition, from 84.9 to 85 percent. The relative long-term average change in early-lifestage survival also would slightly increase (i.e., 0.1 percent) under the Proposed Project. For all individual years included in the 69-year period of record simulations, the change in early-lifestage survival under the Proposed Project relative to the existing condition would range from a decrease of 0.9 percent to an increase of 1.2 percent.

Under the Proposed Project, the long-term early-lifestage average survival in the Sacramento River would result in a slight increase (i.e., 89.7 percent under the Proposed Project relative to 89.6 percent under the existing condition) and in no estimated change for fall-run and late-fall-run chinook salmon, respectively, relative to the existing condition. The relative long-term

average change in early-lifestage survival also would result in a slight increase (i.e., 0.1 percent) and no change under the Proposed Project relative to the existing condition, for fall-run and late-fall-run chinook salmon, respectively. For all individual years included in the 69-year period of record simulated, the change in relative early-lifestage survival under the Proposed Project relative to the existing condition would range from a decrease of 1.2 percent to an increase of 4.4 percent, and a decrease of 0.1 percent to an increase of 0.6 percent for fall-run and late-fall-run chinook salmon, respectively.

For further description and additional detail of the potential effects of the Proposed Project on fall-run chinook salmon lifestages in the lower American River, and fall and late-fall-run chinook salmon in the Sacramento River and the Delta, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Bald Eagle

Construction-related increases in noise and human activity at the Proposed Project site would not be expected to disturb the bald eagle because they are rarely seen and are not known to nest in the area. Individuals foraging in the area could easily use other similar or higher quality habitats in the canyon. Most of the construction activities would occur in a previously dewatered part of the river channel that contains no roosting habitat for the bald eagle. In addition, operation activities would likely disturb bald eagle at a level below existing conditions, because the annual installation and dismantling of seasonal facilities would not be necessary. Operation of the Proposed Project would result in reduced monthly mean flows during certain periods of the year. However, these small flow reductions would not be of sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on the lower American River. Because cottonwood forest and open-water habitats under the Proposed Project would not be adversely affected, bald eagle also is not expected to be adversely affected. For further description and additional detail of the potential effects of the Proposed Project on the bald eagle, please refer to Section 3.6 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

Valley Elderberry Longhorn Beetle

Backwater ponds/habitats would not be expected to be significantly altered under the Proposed Project, relative to the existing condition; therefore, elderberry shrub and critical habitat for VELB would not be expected to be adversely affected.

For further description and additional detail of the potential effects of the Proposed Project on the VELB, please refer to Section 3.6 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

3.19.7.2 Interrelated Effects

Interrelated actions are those that are part of a larger action and depend on the larger action for their justification—i.e., this action would not occur “but for” a larger action (USFWS, NMFS and AFS 2001). The Proposed Project is not dependent upon a larger action for its implementation. Therefore, the Proposed Project does not directly result in interrelated effects

according to the definition provided above. However, the Proposed Project is consistent with the Water Forum Agreement, described above, and its coequal objectives of: (1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. For further description and detail regarding the Water Forum, please refer to the Water Forum Action Plan (Water Forum 2000).

3.19.7.3 Interdependent Effects

Interdependent actions are those that have no significant utility apart from the action that is under consideration—i.e., other actions would not occur “but for” this action (USFWS, NMFS and AFS 2001). Although other projects are proceeding in the action area, none of these actions or other actions depend on the Proposed Project. Therefore, the Proposed Project does not directly result in interdependent effects according to the definition provided above.

The GDPUD action will require a point of diversion and conveyance infrastructure to deliver that water. The Proposed Project is being designed to be able to be modified for the future conveyance infrastructure needs of GDPUD. This design accommodation represents engineering efficiency, although GDPUD may have alternative means to meet future demands. Nonetheless, extension of infrastructure to GDPUD would be subject to separate environmental review and resource agency approvals.

3.19.7.4 Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area. Future federal actions that are unrelated to the Proposed Project are not considered in this section because they will be subject to separate consultation pursuant to section 7 of the ESA (USFWS, NMFS and AFS 2001).

As previously discussed, Reclamation is involved in more than two dozen actions in the American River Basin. These actions include new, amended and renewed CVP water service contracts, Warren Act contracts, flood control operations for Folsom Reservoir, an updated lower American River release pattern, construction of a permanent pump station for PCWA, and construction of a TCD for the EID Pumping Plant. Each of these projects is reasonably foreseeable and affects the hydrologic balance of the American River Basin. The cumulative analysis included in the Cumulative Report (Appendix D of the Draft EIS/EIR) has been conducted with the inclusion of all these reasonably foreseeable actions in the American River Basin. In addition, both this EIS/EIR and the Cumulative Report assess cumulative impacts for four comparisons: (1) Cumulative vs. No Action/No Project Alternative; (2) Cumulative vs. Existing Condition; (3) Cumulative vs. Future Base Condition; and (4) Cumulative vs. ESA Baseline. These comparisons have been assessed for all months of the year, over 70-year (i.e., flows) and 69-year (i.e., water temperature) periods of record throughout the regional study area. For this section of the Draft EIS/EIR, the appropriate focus is on the cumulative versus ESA baseline comparison. As discussed in the Cumulative Report, potentially significant impacts for this comparison include flow-related impacts on steelhead rearing in the lower American River and the effects of flow reductions on potential Sacramento splittail spawning habitat in the lower

American River. For the cumulative versus ESA baseline comparison, no potentially significant impacts were identified for Sacramento River, Feather River, Yuba River, Cosumnes River, or Delta aquatic or terrestrial, proposed, or candidate species. For further discussion and additional detail regarding the cumulative effects analysis for these comparisons, please refer to Section 3.5, Section 3.6, and the Cumulative Report.

3.19.8 CONCLUSION AND DETERMINATION

The USFWS and NMFS have defined the different conclusions and determinations that can be reached through consultation with these agencies. These different conclusions are “*it is likely to adversely affect*,” “*it is likely to jeopardize proposed species/adversely modify proposed critical habitat*” and “*it is not likely to adversely affect*” (USFWS and NMFS 1998). “*It is likely to adversely affect*” is the appropriate conclusion if any adverse effect to listed species may occur as a direct or indirect result of the proposed action, or indirect result of the interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. In the event the overall effect of the proposed action is beneficial to the listed species, but also is likely to cause some adverse effects, then the proposed action “*is likely to adversely affect*” the listed species. If incidental take is anticipated to occur as a result of the proposed action, an “*is likely to adversely affect*” determination should be made (USFWS and NMFS 1998). “*It is likely to jeopardize proposed species/adversely modify proposed critical habitat*” is the appropriate conclusion when the action agency or USFWS and/or NMFS identify situations where the proposed action is likely to jeopardize the proposed species or adversely modify critical habitat. If this conclusion is reached, conference is required (USFWS and NMFS 1998). “*It is not likely to adversely affect*” is the appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial (USFWS and NMFS 1998).

Based on analysis of the existing environment in the Proposed Project area, the habitat status in the Proposed Project site, the regional study area, and potential project effects, it is concluded that the Proposed Project is not likely to adversely affect federally listed fish species, nor is it expected to jeopardize the continued existence of any federally listed species.

Overall, in the Sacramento River and the Delta and according to the definitions described above, the Proposed Project relative to the existing condition is not likely to adversely affect the Central Valley ESUs of steelhead, spring-run chinook salmon, fall-run and late fall-run chinook salmon, Sacramento winter-run chinook salmon, delta smelt, and Sacramento splittail. Long-term water temperatures in the upper Sacramento River would not change relative to the existing condition, and monthly mean water temperatures would remain essentially equivalent under both scenarios. Long-term average flow in the lower Sacramento river (i.e., Freeport) would not change more than 0.2 percent during any month of the year, and monthly mean water temperatures would remain essentially equivalent in all but one year of the simulation. Long-term average water temperatures at Freeport would not change more than 0.1°F during any month of the year. In the Delta, reductions in long-term average Delta outflow would be up to 0.3 percent and there would be no change in X2 position for any given month of the February through June period. Moreover, Sacramento winter-run chinook salmon, Central Valley spring-run chinook salmon, fall-run, and late fall-run chinook salmon would not exhibit any substantial long-term increase in absolute early-lifestage survival, and reflect either slight increases or minor decreases in relative

early-lifestage survival. Therefore, based on these results, a conclusion of *"it is not likely to adversely affect"* is warranted. Also, impacts to Critical Habitat that includes the Sacramento River and the Delta are likely to be insignificant, and discountable. For further discussion and additional detail regarding the Proposed Project effects on water temperature, flows, early-lifestage salmon survival, Delta outflow, and X2 position, please refer to Section 3.5 and the Cumulative Report (Appendix D of the Draft EIS/EIR).

In the lower American River, the Proposed Project is not likely to adversely affect fall-run chinook salmon, steelhead or Sacramento splittail. Under the Proposed Project, there would be minor decreases in flow and increases in water temperature in some years, although these changes will be accompanied by minor flow increases and water temperature decreases in other years. Slight increases in long-term average absolute and relative early-lifestage fall-run chinook salmon survival would occur under the Proposed Project relative to the existing condition. Under the Proposed Project, potential differences in flow and water temperature are expected to have a less-than-significant impact on fall-run chinook salmon, steelhead, and Sacramento splittail. Of these species, Critical Habitat previously was designated only for steelhead, although the designation recently was withdrawn. Adverse modification of Critical Habitat is defined as *"...a direct or indirect alteration that appreciably diminishes the value of Critical Habitat for both the survival and recovery of a listed species [50 CFR §402.02]."* The phrase *"appreciably diminish the value"* is further defined as *"...to considerably reduce the capability of designated or proposed Critical Habitat to satisfy requirements essential to both the survival and recovery of listed species (USFWS and NMFS 1998)."* The minor changes in flow and water temperature in the lower American River do not *"appreciably diminish the value"* of steelhead habitat. Nonetheless, potentially significant flow-related impacts on steelhead rearing and potential Sacramento splittail spawning habitat in the lower American River were identified for the cumulative versus ESA baseline comparison. Therefore, for the lower American River, it is concluded that the Proposed Project is not likely to adversely affect the federal candidate or listed fish species, and the cumulative condition is not likely to affect fall-run chinook salmon but may adversely affect but not jeopardize the continued existence of the federally threatened steelhead and Sacramento splittail.

In the upper American River, construction, operation and maintenance of the Proposed Project is not likely to adversely affect the federally threatened bald eagle. As previously discussed, construction-related increases in noise and human activity at the Proposed Project site would not be expected to disturb the bald eagle because they are rarely seen and are not known to nest in the area. Individuals foraging in the area could easily use other similar or higher quality habitats in the canyon. Most of the construction activities would occur in a previously dewatered part of the river channel that contains no roosting habitat for the bald eagle. Moreover, operation activities would likely disturb bald eagle at a level below existing conditions, because the annual installation and dismantling of seasonal facilities would not be necessary. In addition, operation and maintenance of the Proposed Project is not likely to adversely affect the federally threatened VELB. Backwater ponds, open water habitats, and cottonwood forest in the lower American River would not be expected to be significantly altered under the Proposed Project, relative to the existing condition; therefore, elderberry shrub and Critical Habitat for VELB would not be expected to be adversely affected. For further discussion and additional detail regarding the

Proposed Project construction, operation, and maintenance effects on bald eagle and the VELB, please refer to Section 3.6.